AMATEUR RADIO

DECEMBER 1962

Vol. 30, No. 12

2/-

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before the 8th of the month preceding publication. Technical articles should preferably be typed, double spaced, on one side of the paper, signed and numbered. All drawings should be large and done in Indian ink.

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VK2WI: Sundays, 1100 hours EST, simultaneously on 3573 Kc., 7146 Kc., 50.16 Mc. and 145.13 Mc.; Intrastate call-backs taken on 7050 Kc. VHF 1930 hours EST on 50.16 Mc. and 145.13 Mc.; call-backs taken on 2 metres.

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★

OUR COVER

Senior Scouts, Dennis Price, of 8th Footscray, and Terry McGuire, of 2nd Altona, participate in the Jamboree-on-the-Air from VK3AHT's shack at Yarraville, Vic. See page 13 of this issue.

FEDERAL COMMENT

★

SEASONAL GREETINGS

Year after year at this time it is the privilege of the members of the Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, to extend to Amateurs everywhere hearty seasonal greetings.

Apart from the fact that December every year ushers in the festive season, it also is the conclusion of a year's work for all of us concerned with looking after the administrative affairs of our Institute. Scattered all over the Commonwealth are a goodly number of Amateurs who not only carry on the work associated with their livelihood, but also find time to conduct their hobby of Amateur Radio, play sport, belong to other organisations and take a part in the administration of the W.I.A. To these people we extend our personal thanks for the work they have done in keeping alive our great hobby.

Christmas also brings holidays to many of us and time is generally found to clean up a lot of those unfinished projects. Warmer weather, longer days and a general feeling of goodwill to all enhances the Amateur spirit of friendliness the world over. And so we wish all Amateurs, wherever they may be at this time, a very Happy Christmas.

ROSS HULL MEMORIAL V.H.F. CONTEST, 1962-63

This is the 13th year of the Ross Hull Memorial V.h.f. Contest which, each year, is held over a period of approximately one month commencing in mid-December and concluding in mid-January. It perpetuates the memory of an Australian Amateur whose brilliant career was abruptly terminated in 1938 when he accidentally came in contact with high voltage associated with an experimental television power supply.

At the time of his untimely passing, Ros Hull was the editor of the American "QST" magazine known to Amateurs throughout the world. His contributions to the v.h.f. field of radio transmission and reception were years ahead of his time and formed the basis for the advancement of the art still further after his passing.

Today we remember him as we devote a month of our spare time to making contacts on the v.h.f. bands, which he envisaged and knew could be done, over distances not possible at that time. Like many Amateurs with ability and tremendous zeal to explore, Ross Hull pioneered the v.h.f. bands when it was considered they would be worthless for other than line-of-sight communication. Today we are reaping the benefits of his early efforts in a field which literally yet is unexplored. It is the Amateurs of today who, by their interest in these frequencies, are finding out more and more of what happens to signals under various temperature and climatic conditions. The Ross Hull Memorial V.h.f. Contest encourages these people to be on the air together at a time of the year most favourable to v.h.f. propagation.

FEDERAL EXECUTIVE, W.I.A.

CONTENTS

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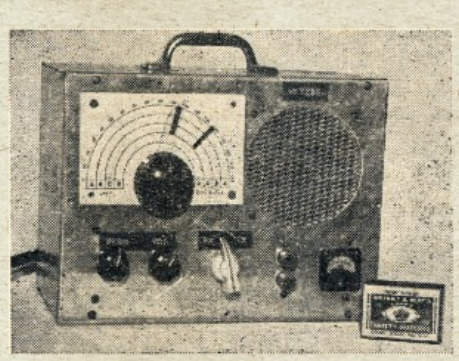
MT110

THE VK7 W.I.A. V.H.F. GROUP 144 Mc. COMMUNICATOR

D. A. THORNE, VK7ZAI*

THE V.h.f. "Communicator" was designed, as a group project, to provide reliable two-way communications on the 144 Mc. band, over short to medium haul paths.

This unit was originally designed for emergency purposes, although they have been put to many uses for which they were not intended, and given reliable results. The original design was described in a "CQ" for October 1957, but after careful scrutiny, the "experts" modified considerably this design to produce a more "Australianised" model.



A design emerged after much head scratching, which has for the last nine months been undergoing the most rigid field tests. To date the best results so far have been a 208-mile contact (R5/S6) from Flinders Island (VK-7ZBE/P) to Mt. Wellington, Southern Tasmania (VK7ZAI/P-VK7ZAL/P), which appeared to be "extended ground wave".

In the field of short-haul working, three units were used by W.I.A. members to provide "ship to shore" communications for the 1961 Royal Hobart Regatta. All units built have been equipped for transmission on 145.0 megacycles, this frequency being selected as the V.h.f. Group emergency and inter-communication channel.

All components, including the cabinet are standard stock items, obtainable in Hobart with difficulty, and elsewhere in Australia with ease.

CIRCUIT DESCRIPTION

The r.f. input to the receiver is capacity coupled to the grounded grid r.f. stage (half 12AT7). This stage is broadly tuned by the LC in the cathode. A small gain is provided by this stage, but the main purpose is of isolation of the detector stage from the aerial, to prevent unwanted radiation and pulling effects caused by aerial changes.

The output of the r.f. stage is capacitively coupled to the detector stage. The super regen. detector (half 12AT7) is of novel design, having high sensitivity, relatively good noise figure, and a smoothly operating quench control which is important in obtaining high sensitivity.

The output of the detector is capacitively coupled to the audio stages (half 6CQ8-6AQ5) which is also used as the modulator on transmit. The switching arrangement is done by a single rotary switch, which is designated on the front panel as the Transmit-Receive switch.

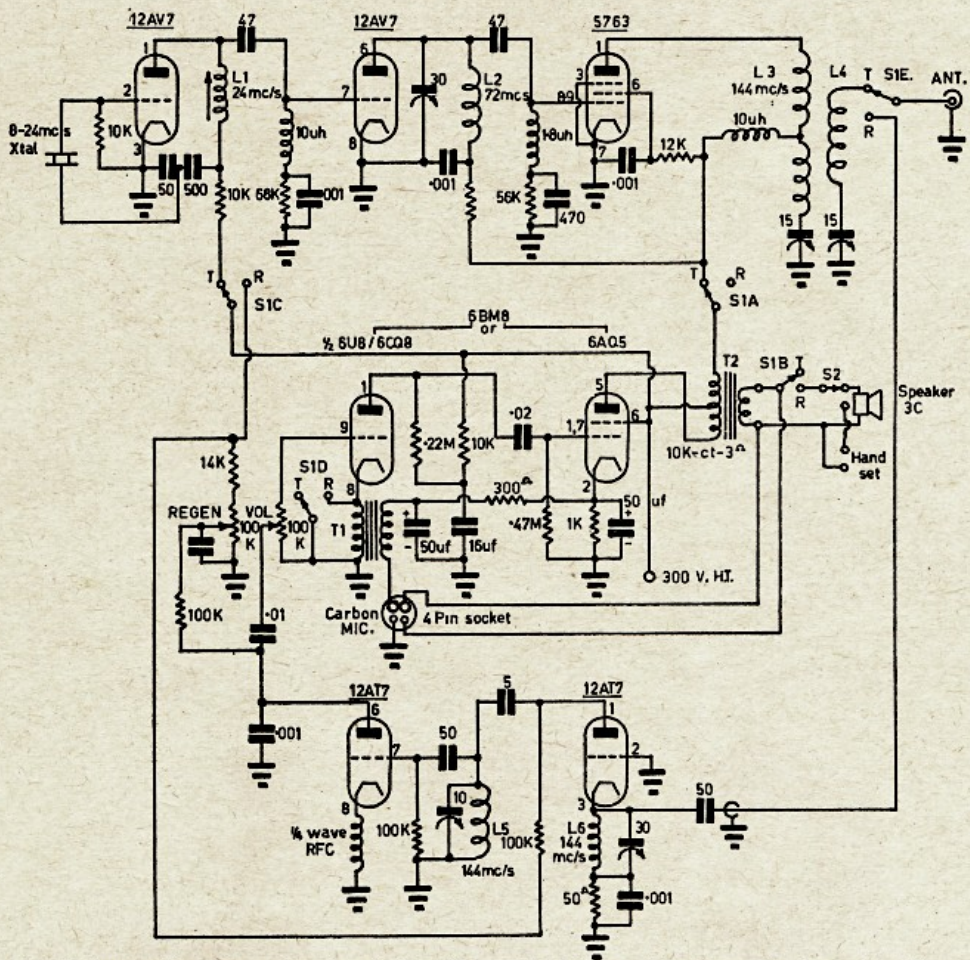
The transmitter consists of either a 8 or 24 Mc. crystal, being excited in a "Robert Dollar" overtone c.c.t. (half 12AV7). The output of the oscillator (24 Mc.) is capacity coupled to the second half of the 12AV7, the anode c.c.t. of which is resonated at 72 Mc.

The 72 Mc. output is capacitively coupled to the 5763 doubler (approx. 1½ mA. drive with a 300 volt supply). The anode c.c.t. of the 5763 is series tuned to 144 Mc., as is the output link, so that various types of aerial can be used with a minimum of trouble with retuning problems.

R.f. outputs of from 2.5 to 3 watts have been obtained with the four units built, this power approx. correct for 100% modulation, a more important factor than trying to increase the r.f. power, with a subsequent deterioration of modulation percentage.

The 12AV7 double triode is used in preference to the 12AT7 because in actual tests the drive available to the 5763 was from ½ to 1 mA. more.

The modulator consists of a carbon mike, feeding into the receiver audio section, by suitable switching arrangement. The modulator is choke coupled



L1—12 turns, ½" diam., slug tuned, No. 22.
L2—4¾ turns, ½" diam., ¾" long, No. 16.
L3—4¼ turns, ½" diam., ¾" long, tap 2 turns up, No. 16.
L4—1 turn, ½" diam., ½" long, No. 16.
L5—3 turns, ½" diam., ½" long, No. 16.
L6—3 turns, ½" diam., ½" long, No. 16.
T1—Carbon mike transformer.
T2—Rola C7, 10K ohms c.t.
Filaments are wired to suit either 6 or 12 volts.

* 308 Park St., Newtown, Tas.

The Communicator was loaned by B. Eyre, VK7ZBE, and Photographs taken by L. Jensen, VK7LJ.

to the 5763 by means of a centre tapped type C speaker transformer. The impedance match offered by this arrangement is very close to calculated impedance. Modulation is in the order of 100%, actual level being adjusted by varying the distance between the lips and microphone, eliminating the need for a separate modulation control.

The bandwidth of the modulator is approx. 3 kc. (200 c.p.s. to 3 kc.) when a carbon mike is used. Modulation is applied to the plate and screen of the 5763 and to the plate of the 12AV7 tripler stage (72 Mc.). The carbon mike obtains its exciting voltage from a voltage divider network in the cathode of the 6AQ5, so making this unit suitable for operation on either a d.c. or a.c. power supply.

A carbon hand mike is normally used, but in cases where privacy is required, a combination hand-set is plugged in and the speaker on-off switch can be put in the desired position.

300 volts at 100 mA. is required for full 3 watts output. Various types of supplies have been used, including transistor, vibrator and mains operated, with no obvious troubles (hash, etc.). The approx. drain of the unit is 3 amps. on 12 volts, and 6 amps. on 6 volts.

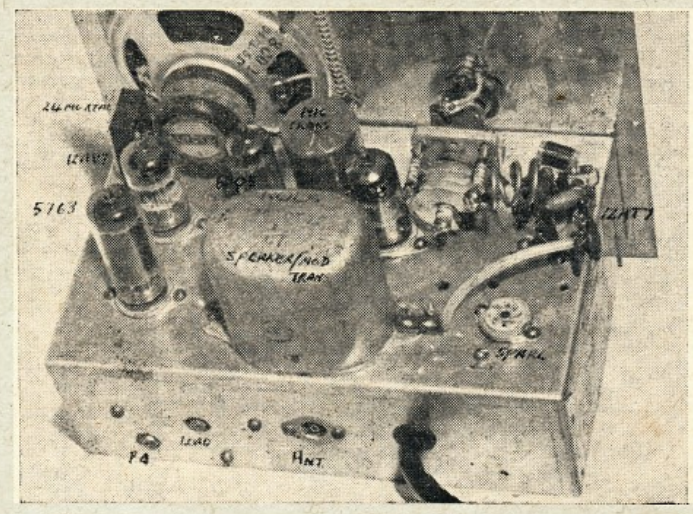
The main aerial used with this set is the quarter wave whip, with communications being maintained up to 12 miles over reasonably smooth ground. An eight element yagi was used to make the 208-mile contact mentioned before, although both a long wire and a wire bed mattress have been used with usable results, which may be necessary in some emergency.

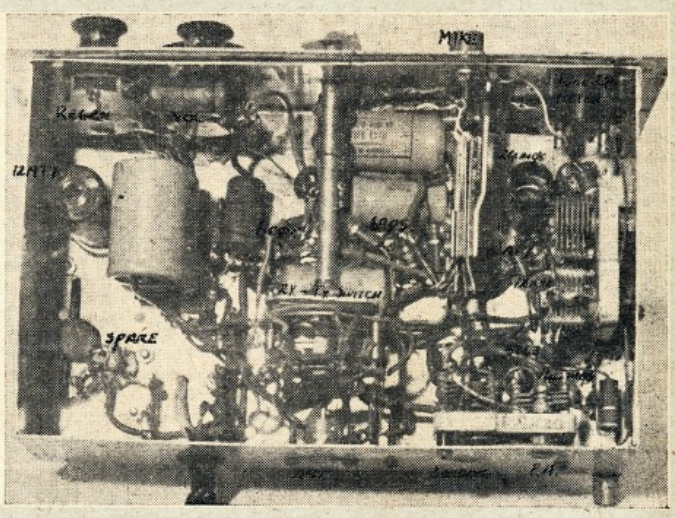
CONSTRUCTION

The Communicator is built to fit a standard instrument case measuring 9" long, 6¾" high and 5½" deep. The steel front panel supplied with the case was not used, but a aluminium panel substituted, being easier to work. The new panel measures 9" x 6¾".

Consult the photograph of the front panel to work out the approx. layout. The dial used is a Jabel No. 2, with diale scale assembly drive, cursor, knob and panel, 180°.

The speaker is a Rola type 3C. The chassis is a stock 8" x 5" x 2½".





Consult the photograph of the top chassis layout for approx. layout of valve and components. The speaker/modulation transformer used is a Rola C7 10,000 ohm centre tapped. The microphone transformer is a standard carbon mike transformer, the smaller the physical size the better.

The tuning gang is, if possible, ceramic insulated, having two fixed plates and one moving plate. The crystal is an FT243 type, this type being common among Hams, and being the most convenient size to fit in the space available.

To determine the under-chassis layout, consult the photograph, the layout being fairly flexible, so making it possible to use components which may be on hand.

The microphone/handset connections are brought into the unit through a 4-pin miniature plug and socket on the right hand end of the front panel. The power connection to the unit is via an 8-pin plug, which is mounted on the back of the chassis, the right hand end viewed from the rear. This plug protrudes from the rear of the case.

The aerial connector is on the rear of the chassis, located in the middle. It is a Belling Lee socket type L734/J/AL.

The photos accompanying this article are those of the Mk. 2 model, the differences being a diode tune-up device being included. The meter for this has been placed in the position taken up formally by the 4-pin mike/handset socket, connection being made with the double jacks on the Mk. 2 model, in the position formally used for the speaker on/off switch, this facility not included on this model.

The photographed model has yet to have the 8-pin plug for power connection fitted.

The VK7 W.I.A. V.h.f. Group is willing to answer any requests for further information on this unit. ●

☆

TWO-METRE DX

ZL2HP and some of the other 2 mx operators in Palmerston North will be beaming across the "pond" very frequently again this coming DX season. No doubt stations in other ZL districts will be doing the same. ZL2HP and the gang will also be monitoring six metres for crossband contacts, so it would be appreciated if any of the VK six metre boys (who also have 2 mx gear) could announce occasionally during good openings that they will tune the 144 Mc. band.

Further details may be obtained from Trev. J. Kendrick, ZL2HP, 3 Ascot St., Palmerston North, New Zealand.

NOTES ON THE BC221*

HERBERT W. GORDON, W1KWB/W1IBY

IN the practical sense, it isn't my wish to explain the operation of the BC221 or LM Frequency Meter since this subject is covered adequately in the calibration book accompanying each instrument and is fully covered in the technical manual TM11-300 issued by the government printing office in U.S.A. Rather, it is my wish to convey information not ordinarily found or otherwise available which will help the user obtain the maximum benefit from the LM series or BC221 type of instrument.

Before detailing what these specifics are, I would like to stress the need for thorough and complete understanding of the basic operating functions of the instrument. As a matter of fact, the operator should be so conversant and so familiar with these functions that he should be able, almost subconsciously, to understand the limitations and order of processes required in using the instrument.

Assuming such a degree of experience and utilising the best possible techniques, it is possible to achieve an order of accuracy with the BC221 amounting to 0.002% or even better. In contrast, the inexperienced, taking a BC221 as he gets it and merely getting it to function, will probably realise errors as great as 0.015%.

DETERMINING INSTRUMENT CONDITION

Before going any deeper into the subject, it is recommended that each BC221 be examined or analysed to determine its degree of condition, and I don't mean mechanical condition as much as I do electro-mechanical condition. Actually this is one instrument where every screw and bolt has to be tight, where every soldered wire has to be right, and where any significant changes in some portions of the circuit simply cannot be tolerated.

To determine whether your BC221 is in good condition, two simple tests are available. However, the first thing to do in checking your BC221 is to remove the nameplate, carefully putting aside the screws and lock washers. Behind the nameplate there should be chalked or crayoned a number. This was put on by the original manufacturer and this number subsequently became the serial number on the nameplate and on the frontispiece of the calibration book.

If your BC221 calibration book number does not match the plate or the number behind the plate, you are in serious difficulty. Many plate changes were employed by disreputable dealers in an effort to sell BC221s. I have noted in examining some thousands of instruments that, at various times, the manufacturer omitted marking his serial number behind the nameplate, so this omission by itself shouldn't be considered too serious.

* Reprinted from "CQ," August 1962.

★ The BC221 (or LM version), a desirable instrument in the shack, can be made more versatile and dependable with the suggested techniques and modifications. A comprehensive summary of all past articles covering this Frequency Meter is also given.

If the book does not match your instrument it is still possible to use the frequency meter and calibrate it with its own harmonic markers and sub-harmonic markers and with the aid of a slide rule, provided that the instrument is otherwise in excellent condition and complete. Such a process of calibration involves a great deal of work and careful concentration to avoid errors and was thoroughly covered in a previous magazine article.[1]

CHECKING FOR ACCURACY

To check the frequency meter for accuracy the following procedure may be used. Set the function switch to the "heterodyne oscillator" or "operate" position. Set the range switch to "high". Set the main tuning dial somewhere in the 2,000-2,500 kc. region. A suitable spot would be 2,333.333 or 2,250 kc. Now switch back to the "crystal check" position and observe the resulting beat note heard in the earphones. The note should not exceed 150 cycles.

Another and somewhat more suitable test is to set the frequency meter to any crystal check point in the "high" range. Zero in with the corrector in the prescribed manner. Set the function switch to the "heterodyne" or "operate" position. Do not disturb the corrector setting. Now, move the main tuning dial to the next check point listed in the calibration book. Set the function switch back to the "crystal check" position; a tone will be heard in the phones. Note the main tuning dial reading and tune the dial for an exact zero beat. If the difference in the two dial readings exceeds 1.2 divisions, the calibration is not good.

On the low band this same test should indicate a maximum error not greater than 1.8 dial divisions. If the error is greater than this, your instrument is bad. The smaller the error the better the condition of your instrument.

At this point I would like to inject a third test utilised by the government to determine the quality of a BC221. This test involves a second instrument, preferably a lab. instrument of better quality, but it can be a second BC221, the quality of which is beyond question. The easiest method involves the use of frequency meter type receivers such as the 51J, the R338, R389 or R390 series.

1—Dudley, B., "Calibrating a BC221 Frequency Meter," "QST," March 1950, page 40.

To check a BC221 with these auxiliary devices, there are five specific test points on the low bands. These are: 130 kc., 160 kc., 190 kc., 210 kc. and 240 kc. On the high band there are four reference points tested. These are: 2,100 kc., 2,400 kc., 2,900 kc. and 3,800 kc. The deviations in dial divisions, when checked at any of these specification points against an external standard, should not exceed half dial division as measured with the vernier scale in order to be considered an excellent instrument. In effect, an instrument to be certified for F.C.C. purposes must meet this particular test. Those whose deviations reach one dial division are considered good and those greater than 1½ dial divisions are considered poor.

MAXIMUM FREQUENCY ERROR

Since the principal application of the BC221 is to measure radio frequencies so as to determine edge of band positions in compliance with tolerances imposed by the F.C.C., it follows that the ordinary error found in the BC221 should be both understood and rectified.

The technical manual TM11-300 is the source of the following statistics on possible frequency errors.

Cause	Error	
Small shocks (caused by handling and thrust on the dial and panel)	100	c/s.
Action of locking the dial	30	„
Warming up	100	„
Change of load on antenna post	50	„
A drop of 10% in voltage, or of 5°C. in temperature	325	„
Error in calibration	500	„
Error in crystal frequency	250	„
Total Error	1355	c/s.

This represents 0.034% error at 4,000 kc. and is the theoretical maximum. Many of the errors may actually cancel each other rather than be additive. Also the error is less at lower frequencies. For example at 2,000 kc. it is only 985 cycles, and 125 kc. only 180 cycles. The average error that can be expected would be closer to 0.015% than 0.034%.

With these error percentages in mind consider the problems of checking band edges or setting a v.f.o. on the Army M.A.R.S. frequency of 3,289 kc. A maximum error 329 cycles is allowed by M.A.R.S. If the error is the maximum, 0.034%, the deviation can be as great as 1,120.3 cycles. However, as pointed out before, the error is more likely to be in the order of 0.015% presenting the possibility of a deviation 494.25 cycles, still in excess of the maximum permissible error.

IMPROVING ACCURACY

How then may we employ the BC221 as a reliable tool for measuring our frequency? The answer lies in a system known as the additive or subtractive system which recognises that the

very accurate 1,000 kc. crystal oscillator bears the main responsibility for measurement accuracy and that the low frequency range of 125-250 kc. is more uniformly frequency stable than the high frequency range of 2,000-4,000 kc.[2]

By the simple expedient of a small, easily effected alteration in the plate circuit of the multi-grid mixer, it is possible to utilise this additive or subtractive method to produce errors not greater than 0.0025% and very frequently much less than this.

The first mechanical alteration made in your BC221 involves cutting into the plate circuit of the multi-grid mixer and inserting a conventional 2.5 mH. r.f. choke as shown in Fig. 1. The plate itself should couple through a small 100 pF. capacitor to a new output connector. If you wish to alter the panel you may insert a suitable r.f. connector jack such as a B.N.C. fitting.

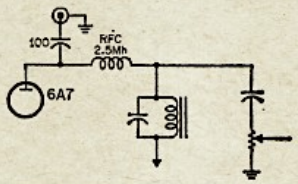


Fig. 1.—Modification made in the plate of the mixer tube that will enable the additive-substract system of frequency measurement to be used. This can provide a great increase in frequency meter accuracy. The mixer tube type will vary from model to model and may be a 6A7, 6K8 or a 7B8.

Insertion of the r.f. choke and capacitor modifies the original circuitry so that the multi-grid mixer can produce sums and differences of both the crystal fundamental or its harmonics as well as the v.f.o. fundamental and its harmonics. Thus you can use the low frequency side of the BC221 where the calibration book shows each 1/10 of a kc., and by doing so, with proper recognition of the beat notes, the accuracy can be improved by a factor of 10 or more.

The function switch still determines the mode of operation. It is normal in the "heterodyne oscillate" position and you may now heterodyne in the "crystal check" position as well.

To illustrate the additive or subtractive method, suppose that you wanted to measure 2,360 kc. The second harmonic of the crystal (2,000 kc.) is beat with the second harmonic of 180 kc. to give the frequency 2,360 kc., i.e. (2 × 1,000) + (2 × 180) = 2,360 kc. This also gives rise to other signal combinations but they will be 180 kc. removed from 2,360.

The accuracy of measurement is even better if you subtract, as an illustration, the 360 from the next one megacycle and set your low frequency range to the difference, or 640 kc. By this so-called subtractive system the error is halved.

There are slight complications in this method which are helpful rather than troublesome if they are used to advantage. The full procedure is to turn the BC221 on and let it warm up for one hour with the band switch on "low." To measure 2,360 kc. set the dial to check point 181.82 kc. and zero beat the "corrector" knob. This can be done, at least once, as soon as the frequency meter is turned on in order to determine the frequency drift during the warm-up period. This rate of warm-up is handy information in case it is desired, subsequently, to make a measurement with a cold frequency meter. (The direction of magnitude and drift should be noted.) Each vernier division will be approximately 2.7 cycles on the fundamental or 5.4 cycles for 2,360 kc. measurements.

Now set the dials to the settings given for 180 kc., the sub-harmonic of 360 kc. While listening on the frequency meter headphones, slowly rotate the main dial one complete revolution to the right and then to the left. You will hear lots of "birdies". Each of those little "birdies" is actually a check point accurate to 0.0001%. If you use a 12" piece of wire for a small antenna and set your frequency meter to 180 kc. dial setting, then you could turn on the oscillator in your transmitter which is being set for 2,360 kc., and slowly move the BC221 dial a one-half turn to the right or left. You will note that while the "birdies" are still present, the beat note between your transmitter and the frequency meter can be heard over one complete revolution (1,000 vernier units). In fact, it will be difficult to find exact zero beat since it covers 4 to 5 vernier divisions.

The system described above is at first confusing due to the many beat notes heard, however, with practice, measurement of various frequencies can be made with little difficulty if you will remember that the beat notes in which you are interested change very slowly in comparison with the spurious beats.

LOCATING THE ZERO BEAT

Three methods for finding the exact zero beat can be employed. One is the use of an external "magic eye" tube to be discussed later, a second is to take the centre of the dial readings for the lowest audio beats, and the third way is to plug an output meter into the phone jack.

The zero beat point can be recognised more easily if the low frequency response of the audio amplifier is improved. The low frequency response of the audio portion of the BC221 can be greatly improved by the use of a high quality 8,000 to 250 ohm output transformer in those models that use output transformers and by connecting a 10 or 20 μF. 20 volt electrolytic capacitor from the cathode of the audio stage to ground. In some models it is necessary to disconnect the audio stage cathode from the heater connection (ground) and to insert a ½ watt cathode bias resistor of 350-500 ohms. The original bias connection presupposed the use of batteries which provided the bias and most Amateurs use these meters with a.c. supplies.

TIME SAVING GRAPHS

Interpolation between the frequencies listed in the calibration book is awkward and time consuming. You will save a great deal of time and obtain better accuracy if you make up a special graph or in reality two graphs for each major frequency in which you are interested. In the illustrated case of 2,360 kc., one graph should cover the high band position using one square per vernier division on one axis and one square for 10 cycles of frequency (2,357.5-2,362.5 kc.) on the other axis. Label this graph "rough measurement". For the additive method the second graph is employed and this should use 2/10 dial divisions per square on one axis and 10 cycles per square for frequency on the other axis. The graph line will cover the same 2,357.5-2,362.5 kc. Place red marks on the curve at plus 0.01 and minus 0.01%. The portions of the curve between 0.0075 and 0.01 may be drawn with red ink, the rest of the band with black ink. The red curve then suggests the accuracy limits.

ACCURACY OF THE MODIFIED BC221

Summarising the maximum possible accuracy of the BC221, the best possible conditions would be to have a constant room temperature, a constant B voltage, a constant A voltage or filament supply, a quartz crystal which has been checked at plus or minus one cycle of WWV at 5 Mc., a frequency meter that has been warmed up to reach thermal equilibrium, and finally graphs which have been substantiated by spurious harmonic points.

Assuming these ideal conditions then the maximum errors that you could get would be: (1) the accuracy of the crystal 1/5 of a cycle per megacycle; (2) a calibration curve error not greater than 8 cycles in the low range; (3) a mechanical dial back-lash error of 4 cycles, and (4) a zero beat error of 5 cycles or less. Adding these together could come out to at least 0.0002% theoretical error.

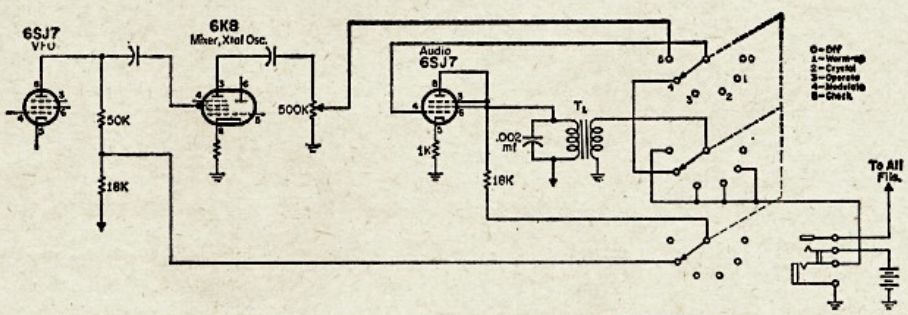


Fig. 2.—Skeletal diagram showing the modulation set up in the BC221AK series. The output transformer, T1, is used as the oscillator transformer in position 4. Audio taken from the plate of the 6SJ7 is fed to the junction of the two plate resistors in the 6SJ7 v.f.o. There are two more switch sections used to handle voltage distribution but these are not shown.

2—Grammer, G., "The Additive Frequency Meter," "QST," May 1949, page 32. Riley, C. L., "Interpolation Frequency Measurements with the BC221," "QST," January 1956, page 41.

PRACTICAL IMPROVEMENTS TO THE BC221

Several modifications enhancing the value of the BC221 have appeared in magazines[3] over the past decade.

Modulation.—The most important improvement is perhaps the easiest one to accomplish and has to do with using the BC221 as a signal generator. This change is accomplished by merely adding tone modulation to the local variable frequency oscillator and either of two ways can be employed to gain this end.

First, we can add a small audio oscillator transformer wired in as is shown in Fig. 2, the circuit of the BC-221AK. This involves a change in the function switch which permits the output of the variable frequency oscillator to be modulated approximately 375 cycles. The function switch in the BC221AK reads "off, warm-up, crystal, operate, modulate, check". In the "off" position, both the A and B battery circuits or power supply are disconnected. In the "warm-up" position 6 volts is connected, through the switch built into the phone jack, to energise the filaments in the three tubes.[4] The B battery circuit is closed, subsequently, in the "crystal" position, energising all tubes with the exception of the variable frequency oscillator. In the "operate" position, the B voltage is applied to all tubes with the exception of the variable frequency oscillator. In the "modulate" position, the B voltage is applied to all tubes with the exception of the crystal oscillator portion of the multigrid mixer.

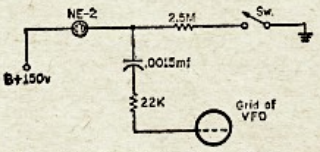


Fig. 3.—A simple relaxation type oscillator developed by DL4VG (W9YUE). Care must be taken to keep the leads short.

The "modulate" position, in addition to converting the audio amplifier circuit to an audio oscillator, the operation switch closes the B voltage circuit for all tubes with the exception of the crystal oscillator, and the plate circuit of the variable frequency oscillator is now connected to the modulator. In the "check" position, the audio amplifier circuit is restored to normal and the B voltage is fed to all tubes. This modification involves the acquisition of a small audio transformer and two resistors in addition to changing the function switch as shown in Fig. 2.

A smiliar modulating device, but without the complexity of the AK circuit, is one which makes use of a simple NE-2 neon lamp and several other components. This circuit is shown in Fig. 3. In operation, the switch is closed to provide a 400 cycle tone on the carrier of the local variable frequency oscillator.

Null Indicator.—For those readers requiring a simple null indicator or zero beat detector, a 6E5 or 6G5 tuning eye tube, connected as shown in Fig. 4, will provide a positive means for indicating the low frequency beat notes. This device may be constructed externally to the BC221 and connection made through the phone jack if you don't wish to alter the BC221.

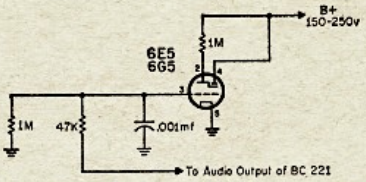


Fig. 4.—An excellent null indicator makes use of a 6E5 or 6G5 "tuning eye" type tube. The circuit, suggested by VE4MW, permits the operator to observe low level signals that are inaudible.

Harmonic Generator.—A most useful addition to the BC221 is the harmonic generator using a 6AK5 miniature tube as shown in Fig. 5. This can be assembled on a small bracket and fastened to the chassis of the original BC221 and should not interfere with the function of the original controls in the slightest.

Harmonics, useful through 300 Mc., will be generated by this device, and for those working with frequencies in the order of 2 and 1¼ metres this is a very desirable addition to the original BC221.

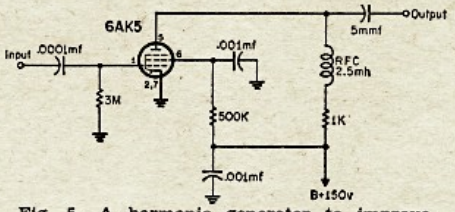


Fig. 5.—A harmonic generator to improve performance in the v.h.f. range may be added to the BC221.

BC221 AS AN AUDIO SOURCE

The BC221 can be used as a source of reasonably good audio frequency sine waves by turning on the low frequency portion of the BC221 and looking for the 10,000 cycle spread between 990 and 1,000 kc. You will find that this takes up over 800 readable divisions with approximately 12 cycles per division. Therefore, with the meter in "check" position, the resulting beat note will be a reasonably, accurately known audio frequency. To check this, tune in WWV on your receiver and feed the receiver output to the horizontal amplifier of an oscilloscope. With the frequency meter set to 996 kc., the 4 kc. beat note which results should form a perfect circle or an ellipse when fed to the vertical deflection plates of the oscilloscope.

BC221 AS A V.F.O.

The BC221, with the aid of suitable isolation amplifiers and then untuned voltage amplifiers, makes an excellent adjunct to either your sideband transmitter or it may serve directly as a v.f.o.

A typical application would involve taking the output of the BC221 with its precisely known control of frequency and feeding it into a cathode follower and thence into two or more stages of broadly tuned 6CL6 multipliers or voltage amplifiers from which point the output will in all probability be sufficient to directly feed a 2E26 or 5763 or 6146. Thus the BC221 is capable of being a tremendous v.f.o. for a sideband exciter.

More details on this type of application may be found by referring to the "Radio Handbook" published by Editors and Engineers.[5]

Some further information may be gleaned from the previous articles listed below. ●

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Nebel, R., "De-Mothballing the BC221," "CQ," December 1950, page 28.

Dorsey, M., "Measuring Frequency with the BC221," "CQ," December 1950, page 29.

☆

WORLD AMATEUR CALL SIGNS

The Federal Treasurer has for sale as usual at £1 post paid, recent back numbers of "Call Book Magazine". Copies available at the moment list American Amateurs only, but the "foreign" edition, listing all Amateurs in the world except Americans, may be available by the time "A.R." goes to press. Apply to the Federal Treasurer, Bob Boase, VK3NI, 50 Cardigan St., Carlton, Vic.

3—Pitts, J. E., "Tone Modulating the BC221," "CQ," August 1949, page 14. "Compact Power Supply for the BC221," "CQ," April 1947, page 30. Grayson, K. B., "Surplus," "CQ," April 1959, page 79. Wood, W., "Null Indicator for the BC221," "QST," May 1950, page 66. Carlson, H., "Adding Tone Modulation to the BC221," "QST," May 1948, page 68. Cross, H., "Using the BC221 Frequency Meter at V.h.f.," "QST," January 1950, page 46.

4—This is a safety precaution. The front panel lid cannot be closed if the phone plug is inserted. When the phone plug is removed the A batteries are automatically disconnected, thus preventing accidental discharge.

5—"Radio Handbook," Editors and Engineers, 11th ed., page 445.

TECHNICAL TOPICS* BY PAT HAWKER, G3VA

☆ "Vive La Lash-up"
☆ 14 Mc. Mini-Dipole
☆ Two-Stage Clamping
☆ Bridged-T Crystal Filter
☆ Signal Injector
☆ Low-Cost Audio Filters
☆ "One-Knob" A.m. Transceiver
☆ V.h.f. Across Mountains
☆ The Simplest Modulator
☆ Prototype Construction

THE other day a youngster just becoming interested in Amateur Radio called round and asked if he could see the equipment. As is the way with these things, it was just at a time when a lash-up 1.8 Mc. transmitter was going through a period of drastic modification. The sight which met the youth's astonished gaze looked like something out of the early 'twenties, with trailing wires, twisted connections, meters and extra components resting on the bench, all forming a most glorious hay-wire effort (the home-built gear at G3VA is not exactly constructors' competition material at the best of times, but that day it really excelled itself). Clearly, this was not how he had imagined an Amateur station—and not at all like those tidy and impressive shacks in the magazines.

But after he had departed (disillusioned?), we began to wonder whether there is not a modern tendency among Amateurs to prize too highly the "professional" appearance: the control panel with every hole symmetrical and correctly filled; all control knobs carefully matched; every interconnecting wire cabled up and out-of-sight. Such equipment, of course, has much in its favour, and often represents great skill and forethought on the part of the constructor; but sometimes it may conceal a rather inflexible station which cannot readily be modified to take into account technical developments or a shift of interest on the part of the owner.

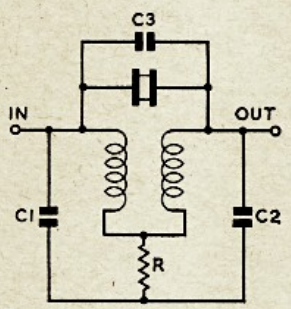


Fig. 1.—Basic bridged-T crystal filter. C1 and C2 are adjusted for maximum response at the series-resonant frequency of the crystal. C3 adjusts the position of the maximum rejection points. In some designs the series resistor R is omitted and the mutual coupling arranged as in an i.f. transformer.

Few experimental designs are likely to work well at first go, and it is only on v.h.f. that results are greatly affected by the actual construction. The production of original prototypes, no matter how rough so long as they do what was intended, can give great satisfaction. All credit to those who afterwards go on and produce a neat and really well-built working model, but we should not consider this the prime aim of the Amateur station, which in this country was once officially classed as "experimental."

This is certainly not an attack on the careful constructor—far from it. But we feel that many Amateurs are deterred from attempting much home-brew equipment because they know that with limited tools or constructional experience, or lacking the necessary temperament, they will not produce equipment looking like a factory-built job. This, we suggest, is a sad reflection on our sense of priorities and could lead to our failing to enjoy much of the very best in our hobby.

SYMMETRICAL CRYSTAL FILTERS

Most of the professional texts on i.f. crystal filters devote considerable space to the bridged-T type of filter (sometimes called "combined crystal and mutual inductance coupled circuits"). With a single crystal two points of infinite rejection can be placed one each side of the crystal frequency, thus providing a symmetrically shaped response curve roughly similar to that of the more familiar two-crystal, half-lattice bandpass filter. The basic circuit is shown in Fig. 1, though some variations can be noted between different authorities.

Although this type of filter was successfully used in some wartime Service receivers (R201 and R206) as a plug-in unit (see a good description in Proc. I.E.E., Vol. 94, Part 3A, 1947), it never seems to have been widely adopted for Amateur receivers.

A possible drawback is that for optimum performance the inductance of the i.f. transformer coils and the mutual coupling have to be specified, and the series resistance (sometimes omitted) also affects results (typical value about 5,000 ohms). Yet clearly a useful filter can be made, quoted performance figures for one of the Service 465 kc. filters being: bandwidth —6 db., 2.5-3 kc.; bandwidth —60 db. (infinity points), 4.5-11 kc.; and better than —40 db. at lobes.

It was therefore with considerable interest that we noted in the German "Funk-Technik" (No. 6, 2 March, 1962), the use in an Amateur-bands receiver of a variable bandwidth filter which appears to combine both bridged-T and half-lattice techniques, using three 467 kc. crystals.

In the article, it is said that this filter (see Fig. 2)—developed by the Valvo firm (type AP1001/70)—is fairly easy to construct, though some care is needed in the choice of values for C20 and C27. The trimmers compensate for the crystal capacitances and the bandwidth is controlled by C22. Unfortunately, no response curves are included in the article.

Such a filter avoids the problem of staggered crystal frequencies as well as providing variable bandwidth, and we feel sure that members would be interested to learn of the results achieved by anyone experimenting with this type of circuit.

Another unusual feature of this particular German design for a home-built receiver is the inclusion of a built-in two-metre converter.

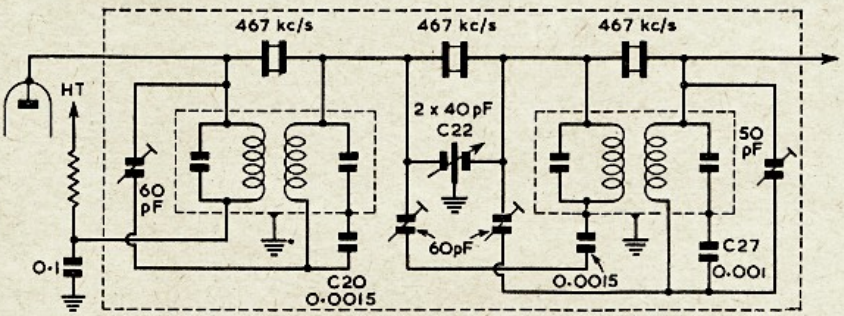


Fig. 2.—Valvo variable bandwidth crystal filter using three 467 kc. crystals. ("Funk-Technik")

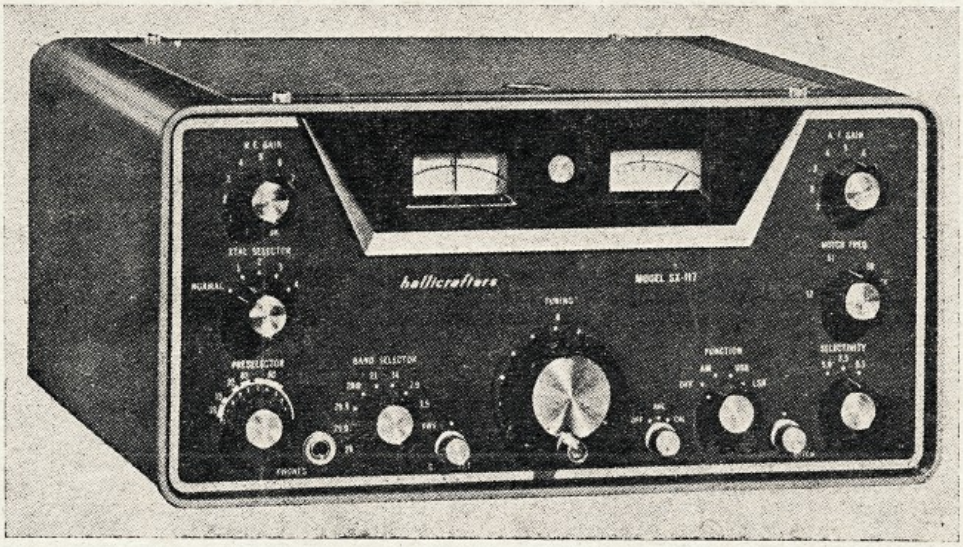
THE SIMPLEST MODULATOR

For those who run c.w. only transmitters, but who feel the urge to make an occasional phone contact without the expense of a high power modulator or a modulation transformer or even any extra h.t. supply, the following idea, though not new, may be of interest.

Almost nine years ago, W6LNN showed ("QST," Sept. 1953) how a very simple 6SL7/6Y6G modulator could be just plugged into the usual keying jack on many transmitters. Now, in "QST" (April 1962), W1PH revives the idea for a 1.8 Mc. rig. Fig. 3 shows the basic details.

When the modulator is inserted in the p.a. cathode lead, it provides principally grid-bias modulation, although there is a small amount of accompanying anode and screen-grid modulation. Almost any p.a.—triodes, tetrodes or pentodes, single-ended or push-pull—

* Reprinted from R.S.G.B. "Bulletin," June, '62.



Hallicrafters Model SX117 Receiver

The SX117 is a new triple conversion heterodyne type communication receiver with crystal controlled high frequency oscillator on all ranges

FEATURES:

- ★ A high order of mechanical and electrical stability.
- ★ Transmitter-type V.F.O.
- ★ Constant tuning rate.
- ★ Back-lash free tuning mechanism.
- ★ Crystal controlled 1st and 3rd conversion oscillators.
- ★ Selectable sidebands.
- ★ Sensitivity less than 1 microvolt.
- ★ Selectivity variable in three steps from 500 to 5,000 cycles.
- ★ Product detector for S.S.B./C.W., envelope detector for A.M.
- ★ I.F. type noise limiter.
- ★ V.F.O. can be used as crystal-locked oscillator.
- ★ Spurious responses down 50 db.
- ★ Audio inverse feedback.

SX-117 is shipped with crystals to cover: 3.5-4.0 Mc., 7.0-7.5 Mc., 14.0-14.5 Mc., 21.0-21.5 Mc., 28.5-29.0 Mc.

Receiver can operate on most frequencies from 3 Mc. to 30 Mc. with use of proper crystals and with accessory unit HA-10 can be extended downward from 3 Mc. to 85 Kc.

A "T" notch is provided to give up to 50 db. attenuation to an unwanted heterodyne or c.w. signal that may appear within the i.f. passband. Sensitivity is less than 1 microvolt on a.m., and less than ½ microvolt on s.s.b./c.w.

TUBES AND FUNCTIONS:

6DC6—R.f. Amplifier.
6EA8—1st Mixer, Cathode Follower.
12AT7—Crystal Oscillator.
6BA6—1st I.f. Amplifier (6-6.5 Mc.).
6BE6—2nd Mixer.
6EA8—Auxil. Xtal Osc. (not supplied)
6EA8—V.f.o., Cathode Follower.
6DC6—2nd I.f. Amplifier (1650 Kc.).
6EA8—3rd Mixer, S.b. Switching Oscillator.
6BA6—3rd I.f. Amplifier (50.75 Kc.).
6AU6—100 Kc. Calibrator.
6BE6—Product Detector, B.f.o.
6BN8—A.m. Detector, A.v.c. Amplifier, A.v.c. Rectifier.
6GW8—1st Audio Amplifier, Audio Output.

Front Panel Controls and Functions: R.F. Gain, Audio Gain, Tuning, Function Selector (Upper/Lower S.S.B., A.M., On/Off Switch), Cal. Reset, Selectivity, Notch Freq., B.F.O., A.N.L./C.A.L., Band Selector, Phone Jack, Preselector.

Rear Chassis: Coax Antenna Connector, Audio Output (3.2 and 500 ohms), Line Fuse, Ground Lug.

Cabinet Size and Weight: 15" wide, 7" high, 13" deep. 18 lbs. net weight, 21 lbs. shipping weight.

Power Supply: 105/125v. 50/60 cycles a.c.

W.F.S. ELECTRONIC SUPPLIES CO.

225-7 VICTORIA RD., RYDALMERE, N.S.W. Phone 08-1715

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should respond to this treatment. The efficiency is, of course, a good deal lower than with anode modulation, but it is said that good quality can be obtained since the correct operating conditions are developed almost automatically.

The transmitter is first tuned up as for c.w. and loaded to normal power; the modulator is then plugged in. The p.a. anode current should then drop to about half the previous reading—and this is the correct condition for phone.

The small filter choke removes the a.f. component from the h.t. supply for the two-stage speech amplifier, in this case a 6SL7. The h.t. supply for the p.a. (from which the h.t. for the modulator is series derived) is about 400-600 volts.

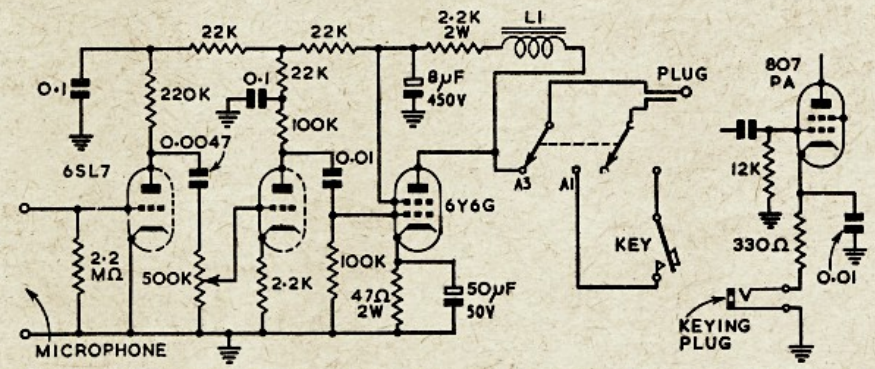

Fig. 3.—W1PH's version of the W6LNN "simplest modulator". L1 is a small filter choke of about 15 H. ("QST")

CONDENSED ROTARY DIPOLE FOR 14 Mc.

The rotating dipole can still be a most useful aerial for those who want to radiate signals to all points of the compass without the constructional and adjustment problems of a multi-element beam. But for 14 Mc. it is often difficult to fit a rotating 33 ft. element into the space available.

In "CQ" (March 1962) K2EEE describes the construction of a mini-dipole (Fig. 4) of about 16 ft. overall length, using two 7.5 μH. loading coils (approximately 11 turns on 2½" diameter former, 6 t.p.i. using U.S. No. 12 or 14 wire).

Final adjustment is made by two end lengths (each 2 ft. long) of ⅝" tubing which slide into the main ¾" tubing. K2EEE's centre hardwood mounting is 28" by 2¾" by ¾", and at the two coil mounts, the ends of the ¾" tubing are flattened and sandwiched between two 6" by 2" polystyrene plates with the coils connected to the inner mounting screws. The dipole need be rotated by only 90°, or even less if necessary.

SIMPLE SIGNAL INJECTOR

More and more service engineers are finding that a simple multivibrator type of generator can be a useful aid for stage-by-stage tests of receivers—particularly those using transistors. We have an idea that such an accessory would also be pretty useful to constructors. It is a logical extension of the old dodge of putting your finger on the grid and listening to the resulting hum, but with the great advantage that it produces a signal extending well into the r.f. range, so that one need not stop at the detector stage.

Several designs have appeared using transistors, permitting a small generator to be built to a size and shape approximating that of a fountain pen, with an output probe in place of the nib.

Fig. 5 shows one recent design, from "Radio-Electronics" (March 1962), using small mercury cells to power the transistors; these transistors were type 2N1265/5 in the original, but almost any small-signal type should be reasonably effective.

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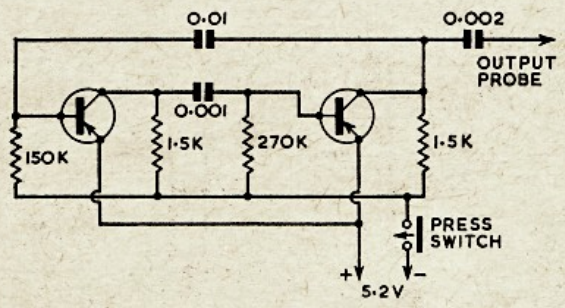
Fig. 5.—Signal injector for servicing and testing, built into unit resembling a ball-point pen. ("Radio-Electronics")

★



RAPID PROTOTYPE CONSTRUCTION

Those who are interested in trying out new ideas and circuits soon feel the need for methods of speeding up the assembly of prototypes without incurring the expense or drilling of individual chassis.

After the initial ideas have been committed to paper in the form of a circuit or possibly a rough sketch of layout based on available parts, comes the time for the first hook-up. At this stage it can be very useful to have available some partly-wired chassis kept for this purpose.

To adapt some of the ideas for a universal experimental chassis put forward in R. H. Garner's "Mechanical Design for Electronics" (Newnes), this can comprise a number of valve-holders, preferably with the heaters pre-wired (but watch out for the odd octal valves which do not use pins 2 and 7 for this purpose); a long tag strip (or one on each side) for locating resistors, fixed capacitors, transistors, etc.; space for rapid mounting of "iron" components, electrolytics, etc., and with plenty of holes available for mounting any other components; either a pre-drilled vertical panel or a series of mounting brackets for variable capacitors, potentiometers, etc.; suitable terminations for power-supply leads, possibly with bus bars running the length of the chassis. One idea is to have p.v.c. wires permanently attached to the pins of the valve-holders with colours corresponding to the usual colour code (brown pin 1, etc.).

For lighter work, and particularly for small transistor units, a very convenient form of construction is described in one of the leaflets issued by the Mullard Educational Service (No. 20, "The Mullard Pegboard Circuit System"), devised to enable experimental and permanent circuits to be quickly and cheaply constructed for demonstration purposes.

The basis of this system is soft pegboard (recognisable by its light colour from the darker, rather brittle type) in conjunction with numbers of cylindrical brass pillars ¾" in length and 3/16" in diameter, tapped at both ends with a 6 BA thread (the pillars are cut from standard 3/16" brass rod and tapped). These pillars can be just pushed into the pegboard (for what is sometimes called "temporary permanent" hook-ups), or firmly attached to it by means of 6 BA nuts with washers or solder tags. These pillars are then used as tag points for mounting light components and wiring, or for attaching heavier parts; if the component mounting holes do not exactly match the pegboard hole spacing, the pillars can usually be sloped a little to accommodate the difference.

Wiring can either be all on the component side or concealed on the opposite side of the board. This general technique is, of course, most suitable for lower frequency circuits where the effect of the brass rods is negligible; for r.f. work it might be advisable to use the rods solely for mounting purposes, possibly in conjunction with conventional tag strips.

More complicated equipment (Mullard mention a square-wave generator as an example) can be made by assembling two layers of pegboard above one another.

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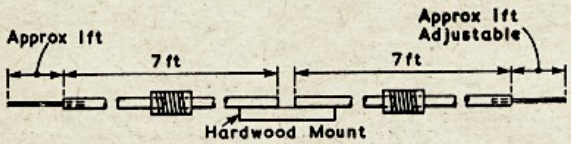
Fig. 4.—K2EEE's mini-dipole for 14 Mc., fed with 70 or 50 ohm coax. ("CQ")

★



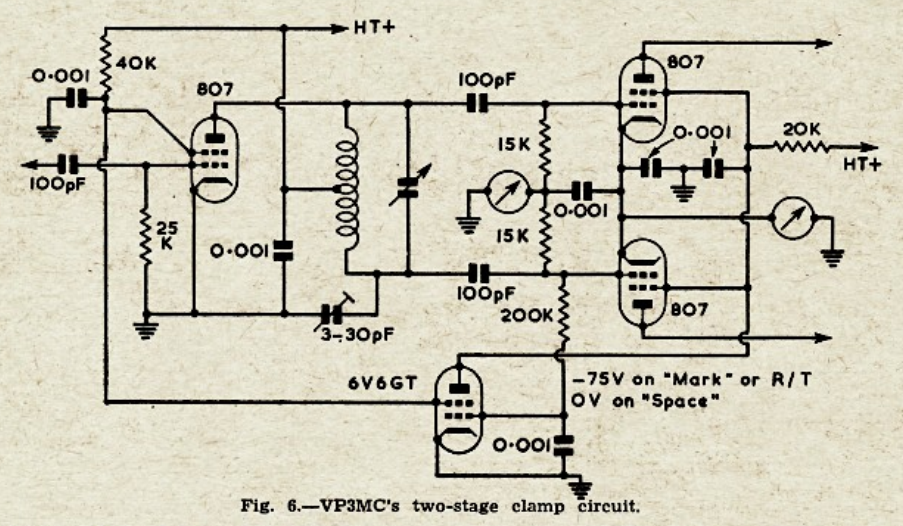


Fig. 6.—VP3MC's two-stage clamp circuit.

TWO-STAGE CLAMPING

The use of screen grid clamping valves with grid current biased p.a. stages has been popular for a number of years with little variation of circuit details. Now, however, VP3MC sends along information on an arrangement which he has been successfully using for some time and which he feels may be useful to others.

This differs from the conventional system in that the clamping action is applied simultaneously to the screen grids of both the buffer and the p.a., resulting in much lower standing current during "key up" ("space") conditions (thus incidentally creating less "noise" radiation) and the need for both stages. Fig. 6 shows his circuit, though the scheme could be readily adapted to other transmitters.

VP3MC writes: "The screen grids of the p.a. are fed from the main h.t. via a 20K resistor. The anode of the clamp valve is tied to the screen grids of the p.a., and the screen grid of the clamp valve connected to the screen grid of the buffer. At VP3MC the grids of the p.a. valve are fed via grid-blocking capacitors with individual gridleak resistors of 15K ohms each. The blocking bias for the clamp valve is therefore taken from the grid of only one of the p.a. valves, via a 200K ohms ½ watt resistor connected closely to the p.a. grid lead for the purpose of isolation, so as to counter any unbalancing effect. On c.w. the v.f.o. is keyed, and this two-stage clamp holds both buffer and p.a. down to very low values of cathode current during 'space' conditions, providing also a useful safeguard during tuning up of the earlier stages or during loss of drive.

"Should a common gridleak resistor be used for the p.a. valves, the blocking bias for the clamp valve would be taken from this resistor, and if the point is at zero r.f. potential the isolating resistor would not be required. Compared with a triode-connected clamp, the improved action on the p.a. is because the screen grid of the clamp valve is at a higher potential during 'space' conditions, but is low enough to effectively clamp the buffer stage."

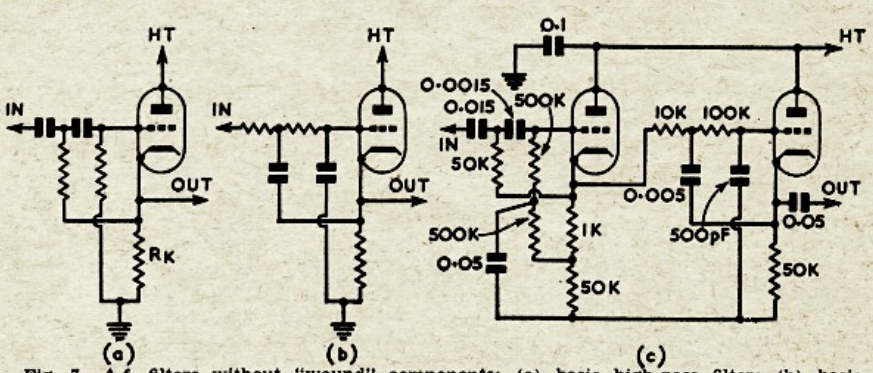


Fig. 7.—A.f. filters without "wound" components: (a) basic high-pass filter; (b) basic low-pass filter; (c) practical design for bandpass filter using cascaded high and low-pass filters. ("Electronics" and "DL-QTC")

LOW-COST AUDIO FILTERS

There are a number of applications in both receivers and transmitters for low-pass, high-pass and bandpass audio filters which give a "roll-off" of the order of 12 db./octave outside their pass range. Most such filters have tended to depend upon "wound" components such as toroids and audio chokes. In "Electronics" (April 10, 1959), it was shown that low-cost high-pass (Fig. 7a) and low-pass (Fig. 7b) filters could be constructed using a cathode-follower valve in conjunction with three resistors and two capacitors; two such filters can be cascaded for bandpass characteristics.

The original article gives full design procedure for determining component values, though like almost all filter design this involves a fair amount of mathematics. However, we recently noted in "DL-QTC" (March 1962) a practical example for Amateur telephony: see Fig. 7c. This has a passband of about 250-3,000 c/s.

ONE-KNOB A.M. MOBILE TRANSCEIVER

The use of a single v.f.o. for transmission and reception is by now well favoured among s.s.b. enthusiasts. But there is, of course, no reason why the same principle should not be applied to a.m. set-ups. In "DL-QTC" (March 1962) DJ3YN describes a compact 3.5 Mc. "Einknopf" mobile rig which uses an EF80 e.c.o. as a basis for the transmitter mixer-type exciter and also for the receiver local oscillator; transmitter and receiver both being automatically tuned to the same channel. Fig. 8 shows more clearly than words how this is achieved. A simple adaptor, using a single 6U8A, to convert existing equipment to simultaneous transmitter and receiver tuning is described by W6EOT in "QST," May 1962.

IONOSPHERIC FORECASTING

An article in Proc. I.E.E. (March 1962) explains the new method of Ionospheric Forecasting now being used by D.S.I.R. This is based on the identification of "epochs" during which corresponding conditions prevailed in past years, rather than plotting completely new forecast maps as done previously. It has been found that it is usually possible to identify some period within the previous ten years when almost identical radio conditions occurred. One result of this new system, it is said, is a great increase in the accuracy of predictions made several months in advance.

KNIFE-EDGE DIFFRACTION PROPAGATION

V.h.f. enthusiasts will probably tell us that there is nothing new in the idea of getting signals across a mountain range by aiming their beams accur-

(Continued on Page 16)

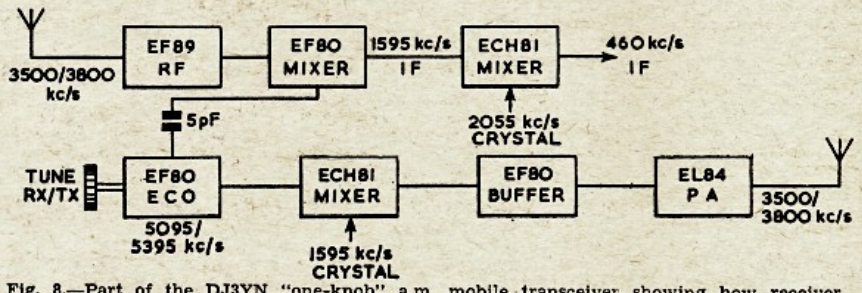


Fig. 8.—Part of the DJ3YN "one-knob" a.m. mobile transceiver showing how receiver and transmitter are tuned automatically to the same channel by the single e.c.o. ("DL-QTC")

Scouts who took part say . . .

"SUCCESS OF JAMBOREE-ON-THE-AIR DUE TO HAMS"

Despite the fewer Amateurs and Scouts who took part in the Fifth Jamboree-on-the-Air, it proved to be one of the most successful. Contacts established were more varied and of a generally higher quality than last year.

The success of the Jamboree was due to the co-operation, goodwill, and enthusiasm of Amateurs everywhere. Many so caught the spirit of the activity that they spent long periods seeking contacts for the Scouts who visited their shacks. There were, unfortunately, the odd instances when Scouts who had arranged to take part did not turn up, but, happily, these were in the minority. Two Victorian Amateurs were instrumental in making the Jamboree run smoothly. They are John Woodburn (VK3AGD) and Lin Brown (VK3ARL), Branch Organiser and State Co-ordinator for Victoria, respectively. Their unflagging enthusiasm, patient attention to detail, and "Scout spirit" was appreciated by all who had dealings with them.

There were sixty-nine Scout Groups in Victoria operating from fifty Amateur Stations during the Jamboree week-end. A notable feature was the increased number operating portable from Scout Halls, and the number of Amateurs and Scouts who took part for the first time.

Approximately 1,000 Scout visitors attended these stations and they all thoroughly enjoyed themselves. They exchanged greetings, arranged for pen-pals, chaffed each other about their towns and the weather, and generally had great fun.

600 contacts were made, and 450 of these were Group-to-Group. Included in the 600 were 71 DX contacts. These figures are not truly indicative of the results, as more than 50 stations, operating with Scouts, were monitored during the week-end.

Increased activity Interstate shows the interest which is gradually spreading throughout the Commonwealth. The encouragement given by the Wireless Institute of Australia, in assisting with preparations, publicity, and in a more practical way, by setting up official stations and operating for the benefit of Scouts, was greatly appreciated.

It was stimulating to note that a number of v.h.f. stations took an active part this year. It would contribute considerably to the Jamboree activity if the v.h.f. boys could be persuaded to combine their annual field day with the Jamboree next year, and thoughts on this matter would be appreciated.

One of the most widespread criticisms heard during and after the Jamboree was that it was not well publicised overseas. Here is an opportunity for DX enthusiasts to do a good turn for the Boy Scouts by talking about the Jamboree to their DX contacts during the next twelve months and arranging skeds when Scouts can be present in their shacks.

The earnest and excited activity during the forty-eight hours of the Jamboree is evidence that interest is increasing. Scout leaders have found it instructive, fascinating, and a practical way of bringing home to their Scouts the meaning of the fourth Scout law: "A Scout is a friend to all and a brother to every other Scout, no matter to what country, class or creed the other may belong."

In addition to this, the Jamboree-on-the-Air has other far-reaching possibilities. It may well be a source of future Amateurs and members of the W.I.A. The formation of Youth Radio Clubs, in Scout Groups, similar to those at present being promoted throughout all Divisions of the W.I.A. would help ensure this.

The Jamboree-on-the-Air was an indubitable success, and the thanks of the Boy Scouts Association are extended to all who helped to make it so.

—L. D. Marmo, "Jamboree-on-the-Air" Publicity Officer, Boys Scouts Association, Victorian Branch.

TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

☆

Manuscripts should preferably be typewritten but if handwritten please double space the writing. Drawings will be done by "A.R." staff provided that the article is illustrated.

☆

Photographs will be returned if the sender's name and address is shown on the back of each photograph submitted.

☆

Please address all articles to the

EDITOR "A.R.,"
P.O. BOX 36,
EAST MELBOURNE, C.2,
VICTORIA.

RESULTS OF 1962 REMEMBRANCE DAY CONTEST

Our congratulations this year go to Western Australia for retaining the trophy for the second year in succession. Western Australia had the highest percentage participation. Highest State log average this year goes to South Australia. Inspection of the Total State Points column shows that the Contest was very keenly contested, and for the want of a dozen or so more logs from either Queensland or South Australia, any of three States could have won. It is noteworthy that Queensland, who usually run a poor last in this event ran into second place.

All sections of the Contest were keenly contested with some excellent individual scores being registered. Conditions for this year's Contest were not as good as in previous years, and most of the scoring was done on 80 and 40 metres during the period of night operation. Another interesting sidelight is that use was made of the 160 metre band which has not previously been available. Some operators were able to avail themselves of bonus points by using the 6 metre band.

On the whole, logs returned were of a fairly high standard, although some listeners' logs still persist in claiming points for stations heard and also for stations called.

The task of the F.C.C. could be made somewhat easier by the adoption of a standard Contest Log Sheet. Regarding the issuing of Certificates, the newly formed F.C.C. is awaiting the supply of Certificates from Federal Executive, and when these are to hand this matter will be attended to promptly.

F.C.C. has received suggestions that the Phone Section of the Contest should be divided into s.s.b. and a.m. Further comments from members regarding this matter would be welcomed.

Once again our congratulations to Western Australia for a splendid win and our hope that some new State may win the trophy next year.

—Federal Contest Committee.

DETAILS OF STATE SCORES

	Total State Score	Aver. Top Logs	Licensees	Log Entry	Percentage	State Log Aver.	**Total State Points**
New South Wales	17,854	782	1,377	104	7.5	171.6	2,130
Victoria	17,476	673	1,342	92	6.8	189.9	1,871
Queensland	14,466	645	449	87	19.3	166.0	3,447
South Australia	16,162	943	520	78	15.0	207.0	3,367
Western Australia	10,646	627	297	87	29.2	122.4	3,746
Tasmania	5,910	540	156	45	28.8	131.3	2,245

STATE TROPHY

Western Australia .. .. 3,746 points

Highest State Log Average

South Australia .. .. 207 points

Highest Individual Score

VK5MS .... 1,286 points

Award Winners

Open—

VK2AHM—R. J. Whyte	1,218	pts.
3ALZ—I. F. Berwick	813	„
4DP—D. M. Portley	734	„
5JN—J. M. Brammer	624	„
6RU—J. E. Rumble	889	„
7SM—S. G. Moore	614	„

Phone—

VK2AHH—N. A. Hanson	902	pts.
3AZZ—R. J. Gray	703	„
4RH—A. L. Hoey	756	„
5MS—M. S. Millowick	1,286	„
6MK—H. T. Mulder	775	„
7MS—D. M. Slowan	735	„

C.w.—

VK2APK—D. F. Kiesewetter	416	pts.
3RJ—R. E. Jones	293	„
4XW—G. Harmer	315	„
5MY—H. M. Roberts	400	„
6SM—M. H. Shaw	289	„
7LJ—L. R. Jensen	167	„

Receiving—

L2211—R. C. Aberneathy	888	pts.
L3065—I. D. Thomas	986	„
—C. T. Taylor	959	„
L5015—W. J. Clayson	833	„
L6021—P. Drew	815	„
—G. C. Johnston	748	„

NEW SOUTH WALES

Top Six Logs—

VK2AHM	1218 points
2AHH	902 „
2BO	829 „
2FE	640 „
2NB	560 „
2AHT	546 „

Open—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK2AHM	447	1218	VK2PN	100	255
2BO	296	829	2HC	93	254
2FE	279	640	2ARZ	97	193
2VN	172	526	2AQJ	76	192
2SG	180	514	2CK	60	131
2DO	168	358	2HZ	28	110
2HO	152	343	2AUC	35	71
2RA	123	298	2AAB	21	51

C.w.—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK2APK	131	416	VK2OY	30	68
2QL	148	402	2JM	26	67
2EO	132	352	2ZO	18	44
2NS	90	228	2IC	9	36
2AKB	77	220	2ZC	18	36
2DA	91	217	2AOW	21	36
2YB	89	214	2EG	15	34
2PQ	74	157	2AXK	13	32
1SG	48	119	2DI	11	22
2GW	25	68	2OT	7	11

Phone—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK2AHH	333	902	VK2AKV	20	69
2NB	233	560	2SU	35	68
2AHT	220	546	1AB	17	67
2VU	202	510	2ACQ	21	65
2KJ	151	416	2IV	18	58
2ANO	111	389	2OE	20	55
2APP	120	366	2ACD	21	54
2TO	103	333	2RU	16	47
2XT	105	274	2APQ	22	47
1AOP	127	274	1ANR	12	46
2ALV	128	258	2WT	16	46
2AHV	96	256	2XU	11	44
1VP	80	236	2LA	17	40
2BB	99	227	2RJ	16	37
2GT	88	224	2ADL	11	35
2HD	82	207	2ATQ	12	35
2ARU	96	187	2AJL	9	30
2RX	82	174	2IJ	15	30
2ARI	53	157	1PM	17	23
2AGF	53	137	1ACA/Log		
2AEB	36	115	1SB	11	24
2OD	50	115	2EY	13	23
2EL	56	115	2AAJ	5	21
2ACZ	55	107	1DG	11	21
2AIM	41	106	2AQR	11	21
2MW	35	101	2AIA	7	20
2CU	49	87	2CS	5	17
2ATX	37	83	2ASI	8	16
1RS	26	82	2GV	9	16
2ZF	21	80	2CF	12	16
1ACA/Log			1TM	6	15
1KM	41	80	2ACQ/P	6	12
2OH	36	76	2AKL	6	9
2AHA	27	75	2AWX	5	8
2ADE	21	73	2AAH	6	8

VK2YY—Check Log.
VK2ACI—Ineligible Log.

VICTORIA

Top Six Logs—

VK3ALZ	813 points
3AZZ	703 „
3ADW	646 „
3DF	645 „
3AIT	633 „
3RV	600 „

Open—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK3ALZ	282	813	VK3XB	101	232
3AXK	222	536	3QP	104	222
3APJ	187	446	3KB	71	220
3HG	110	290	3YS	22	39
3KC	126	267	3ASC	21	27
3AST	83	244			

Phone—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK3AZZ	282	703	VK3AYD	44	91
3ADW	244	646	3IC	45	90
3DF	218	645	3HL	31	88
3AIT	227	633	3NX	40	88
3RV	133	600	3GX	33	83
3ARD	226	599	3AFU	36	76
3NN	174	526	3ACN	33	66
3ABP	184	471	3ATS	23	61
3AHA	185	447	3XE	24	57
3ACI	149	364	3AHG	17	52
3ATN	101	353	3AXU	25	50
3LW	120	344	3PP	16	49
3DQ	123	313	3AAT	25	48
3AWT	127	317	3AWF	18	42
3QV	120	307	3ZU	17	36
3ARJ	104	287	3YA	21	36
3WB	111	257	3AFP	22	34
3AUL	103	246	3OV/Log		
3AZM	114	243	3UM	7	33
3VZ	69	230	3ACD	12	33
3OM	106	229	3ALD	17	32
3AFJ	112	227	3ABT	15	27
3AXT	105	232	3AEL	12	23
3YQ	78	209	3AIJ	11	22
3SX	73	203	3ACS	11	22
3FW	48	196	3ALU	19	22
3SM	89	168	3IE	8	20
3XY	76	148	3AAD	17	20
3ASW	80	148	3RN	11	19
3DU	60	144	3XK	11	19
3AZR	68	140	3PW	11	18
3OY	40	139	3AAD	6	17
3ZS	60	116	3AGD	7	15
3HE	37	103	3ZK	8	15
3AFF	45	96	3AWW	6	10

VK3ZR—Check Log.

C.w.—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK3RJ	135	293	VK3KS	35	88
3AKN	94	292	3AND	46	84
3IB	122	292	3ZC	48	80
3ZA	97	209	3DG	11	14
3ARX	64	160	3YU	6	10
3JI	52	138	3JO	7	8

QUEENSLAND

Top Six Logs—

VK4RH	756	points
4DP	734	,,
4UX	704	,,
4QJ	605	,,
4RZ	538	,,
4LT	534	,,

Open—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK4DP	287	734	VK4SN	22	75
4ZB	87	323	4CN	14	53
4DO	105	240	4QW	25	43
4JR	21	84	4GH	13	18

Phone—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK4RH	282	756	VK4LW	44	100
4UX	262	704	4LB	43	93
4QJ	249	605	4NG	24	82
4RZ	213	538	4JY	43	80
4LT	203	534	4HZ	53	76
4TM	187	490	4AF	24	74
4PS	120	412	4NP	18	68
4BQ	132	395	4NS	27	68
4CP	139	371	4ZAZ	14	67
4VB	143	352	4VJ	20	65
4NB	129	349	4CZ	21	65
4OR	102	348	4PF	27	57
4HC	71	306	4LE	24	53
4LJ	114	294	4ZWB	9	52
4EZ	78	273	4HA	12	45
4WW	77	250	4RX	16	35
4EJ	103	238	4LA	20	35
4ZR	90	221	4PJ	10	30
4MF	94	217	4FN	18	30
4EB	72	207	4GG	21	28
4WS	98	197	4ZM	6	27
4FY	57	181	4AQ	8	24
4UW	80	166	4CI	14	24
4WO	48	164	4FJ	7	23
4ZZ	72	158	4ZW	8	22
4PU	58	148	4HD	7	19
4CW	57	144	4RW	8	19
4BB	70	144	4PR	6	17
4RL	46	138	4OL	14	17
4RO	67	132	4WD	5	8
4XO	49	126	4GS	6	8
4OV	50	110	4LN	7	7
4SL	32	102	4ZP	6	6

C.w.—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK4XW	131	315	VK4SS	16	59
4VR	97	232	4JB	13	49
4OJ	114	248	4SD	19	46
4DU	98	220	4JF	30	46
4CK	76	167	4WY	9	37
4HH	50	141	4AW	8	16
4XP	51	120			

SOUTH AUSTRALIA

Top Six Logs—

VK5MS	1286	points
5ZK	1158	,,
5KK	1157	,,
5FT	757	,,
5UA	677	,,
5JN	624	,,

Open—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK5JN	250	624	VK5ZC	67	153
5TC	216	550	8UX	62	117
5CV	111	378	5AG	22	79
5EU	131	367	5KI	39	57
5QR	135	317	5RK	12	54
5WO	80	230	5HM	16	47

C.w.—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK5MY	161	400	VK5EJ	52	107
5XK	134	363	5OR	41	81
5LD	124	323	5TL	29	60
5JT	82	200	5RX	12	46
5ZF	84	200	5KU	14	42
5FY	80	194	5FM	5	7

Phone—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK5MS	457	1286	VK5WN	37	102
5ZK	421	1158	5SJ	67	97
5KK	422	1157	5CH	30	92
5FT	263	757	5IB	31	91
5UA	283	677	5LC	35	70
5DJ	272	574	5SS	37	57
5JR	199	508	5CJ	35	56
5US	117	358	5WV	20	53
5DF	131	342	5OK	21	51
5EF	123	314	5UA/Log		
5TM	116	290	5UZ	18	44
5WC/Log			5PM	31	44
5QX	114	273	5IQ	11	39
5AX	111	249	5OB	13	38
5HA	138	230	5YC	10	35
5TJ	83	222	5OZ	25	34
5ZB	69	190	5LN	24	33
5HW	45	166	5ZQ	24	31
5GW	89	161	5CO	7	28
5IM	51	147	5DO	10	27
5MT	64	143	5JG	14	24
5AQ	50	127	5WW	13	20
5UF	49	123	5XU/P	6	17
5XM	61	123	5KS	7	15
5KC	57	121	5PS	10	13
5GX	31	113	5EI	7	12
5WX	42	111	5YA	6	10
5LL	61	104	5OV	7	9

WESTERN AUSTRALIA

Top Six Logs—

VK6RU	889	points
6MK	775	,,
6KW	717	,,
6XR	521	,,
6PH	451	,,
6RY	413	,,

Open—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK6RU	386	889	VK6JK	20	45
6PH	193	451	6EZ	19	41
6BE	72	154	6VK	12	28
6HK	21	49			

Phone—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK6MK	301	775	VK6RW	40	80
6KW	292	717	6RG	29	75
6XR	209	521	6TB	32	75
6RY	172	413	6DC	31	71
6AR	152	384	6AB	27	64
6XO	160	382	6BO	29	64
6RX	142	311	6TR	24	60
6MF	106	249	6MM	23	49
6RE	102	231	6GD	20	48
6CW	95	222	6KN	22	48
6QL	86	220	6DI	22	45
6JO	76	175	6SJ	17	41
6TH	80	171	6KH	16	37
6LR	71	168	6AW	13	28
6CN	64	143	6GR	14	28
6RH	57	137	6MR	11	24
6XG	60	136	6HS	10	23
6JS	55	131	6LM	11	23
6CR	56	128	6GB	9	22
6ZZ	50	126	6RO	7	21
6YL	57	122	6MB	7	19
6AV	43	121	6MO	7	19
6DX	46	114	6AG	7	18
6CA	45	102	6TY	9	18
6CL	42	101	6LS	6	16
6BU	42	98	6LK	7	16
6GH	40	96	6TX	6	15
6CJ	43	96	6EB	11	15
6KJ	35	84	6WI	6	13
6CP	32	82	6VF	8	13
6LF	33	82			

C.w.—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK6SM	122	289	VK6JA	9	21
6AS	60	141	6WT/Log		
6RS	54	113	6KX	7	20
6ZO	46	103	6DF	6	18
6WT	32	76	6UF	7	17
6VR	30	75	6CE	8	14
6TS/P	16	45	6MY	7	12
6BA	21	42	6AJ	7	11
6WG	10	24	6GM	7	10
6AS/Log			6RK	6	9
6GA	7	23			

TASMANIA

Top Six Logs—

VK7MS	735	points
7AI	690	,,
7SM	614	,,
7JF	449	,,
7SF	426	,,
7KH	331	,,

Open—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK7SM	212	614	VK7JG	20	43
7ZZ	123	301	7WI	10	28
7KS	100	249	7WI/Log		
7DS	44	72	7AL	6	16
7YL	15	47			

Phone—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK7MS	275	735	VK7JO	24	35
7AI	222	690	7RX	14	32
7JF	189	449	7EB	17	32
7SF	168	426	7AB	17	30
7KH	128	331	7DR/Log		
7XL	114	229	7JP	10	21
7IL	115	221	7DR	10	19
7CT	79	144	7JD	9	18
7TT	37	67	7AX	7	17
7BQ	26	62	7BT	6	14
7MX	28	62	7DK	9	14
7FJ	20	56	7DA	6	13
7FH	15	35	7RM	6	12
7MY	16	35	7CF	7	8

C.w.—

Call	Cont.	Pt.	Call	Cont.	Pt.
VK7LJ	68	167	VK7CH	20	58
7KA	52	130	7BJ	30	58
7RY	42	91	7EC	17	45
7AG	27	69	7RK	12	33
7MZ	30	68	7WA	7	14

VK7ZW—Disqualified Log.

PAPUA/NEW GUINEA AND TERRITORIES

Call	Cont.	Pt.	Call	Cont.	Pt.
VK9DJ	138	386	VK9LA	20	67

ANTARCTICA

Call	Cont.	Pt.	Call	Cont.	Pt.
VK0JM	10	60	VK0DW	9	54

RECEIVING SECTION

New South Wales—

WIA-L2211—	R. C. Aberneathy	888	points
L2033—	D. Shephard	636	,,
	H. St. John	429	,,
L2262—	R. Oats	303	,,
L2250—	L. Miller	228	,,
	B. McPherson	227	,,
	R. Bowden	225	,,
L2259—	P. Vernon	222	,,
L2001—	B. Smyth	180	,,
L2229—	L. O'Shea	154	,,
L2233—	R. Erwin	105	,,
L2064—	A. Mullen	61	,,
L2222—	K. Rowe	31	,,

Victoria—

WIA-L3065—	I. D. Thomas	986	points
L3076—	Q. Young	609	,,
L3127—	R. Gething	447	,,
L3074—	J. M. Hillard	421	,,
L2022/VK3—	D. M. Grantley	414	,,
L3117—	K. Reynolds	370	,,
L3101—	N. G. Harrison	333	,,
L3042—	E. W. Trebilcock	323	,,
L3106—	J. Kennedy	281	,,
L3006—	I. R. Woodman	212	,,
L3099—	J. Jobson	179	,,
	G. Hunt	174	,,
L3093—	C. Cook	45	,,

Queensland—

	C. T. Taylor	959	points
WIA-L4021—	H. N. Thompson	456	,,
	T. A. Lane	453	,,
	W. F. Summers	388	,,
L4019—	M. G. Hannah	273	,,
	G. W. Fox	98	,,
	G. Milner	64	,,
L4010—	G. V. Frankes	43	,,

South Australia—

WIA-L5015—	W. J. Clayson	833	points
L5041—	D. J. Coggins	620	,,
	J. Lodge	505	,,
	C. R. Walker	454	,,
L5048—	G. J. Whiteside	243	,,
	Miss O. J. Martin	25	,,

Western Australia—

WIA-L6021—	P. Drew	815	points
Y6003—	F. Price	462	,,
	R. Wilkinson	414	,,
	T. Cole	292	,,

Tasmania—

	G. C. Johnston	748	points
WIA-L7028—	J. Gelston	155	,,
L7015—	W. Nickols	147	,,
	G. Ranft	133	,,
L7025—	B. Kelly	110	,,
	A. Smith	56	,,

TECHNICAL TOPICS

(Continued from Page 12)

ately at a sharp ridge. That this technique has now been recognised and adopted by our commercial colleagues is made clear in "Electronics" (April 6, 1962). An article describes how 1855 Mc. signals from a 15 watt transmitter with a 10 ft. dish (parabolic) aerial sent signals over a 454 miles path across a range of mountains by aiming the aerial at an intervening ridge (3,789 ft. high), the signals being diffracted down the other side. It is forecast that ranges of 1,000 miles could be achieved using this type of scatter.

While on the subject of parabolic dish aerials, already being used by Amateurs for moon-bounce and radio astronomy, it is worth noting that the Russians are reported to have constructed 20 metre dishes for cloud observation radar using reinforced concrete plated with zinc at a cost "some hundreds of times less than for a conventional metal structure." Better scout round the nearest building site for a spare concrete mixer.

FOLLOW-UPS

Another application of Nuvistors is highlighted in R.C.A. "Ham Tips" (Spring 1962). This is for low power miniaturised v.h.f. transmitters for mobile or fixed-station use. The high anode dissipation rating for their small size, their suitability for use up to 400 Mc., their rugged construction are all points in their favour. The article, by W2OKO, gives constructional details of a 144 Mc. transmitter with a pair of 7587 Nuvistor tetrodes in the p.a. for inputs up to 7½ watts, and two 7586 triodes in the earlier stages. The whole r.f. section sits comfortably on a 5" x 7" piece of copper or brass. In the May "QST" W1YDS describes a simple and compact 420 Mc. super-regen. transceiver using a 6CW4 Nuvistor plus two a.f. transistors.

We have several times commented on the controversy still raging in professional as well as Amateur circles on the relative merits and demerits of the various a.m. and sideband modes. Latest shot is the argument that suppressed carrier has severe limitations for use in high speed aircraft because of Doppler shift (even a 20 c/s. error can upset data links and selective calling systems). So watch your speed on s.s.b. mobile! ●

S W L

OH0, KL7, ZD8, ON4, LZ, FF8, VP8, XW8, 5H3, W0

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VICTORIA

The annual election meeting of the VK3 S.w.l. Group took place in Sept. with 17 members in attendance. The general meeting moved along rather smartly and when closed it was time to elect office-bearers for the following twelve months, which resulted as follows: President, Bob Young; Vice-President, Noel Harrison; Secretary, Ian Woodman; Assistant Secretary, Craig Cook; Publicity Officer, Mac Hilliard; S.w.l. Notes Sub-Editor, Bob Young.

Maurie L3055 has recently returned from VK7 from his rather long holiday. It seems I was misinformed when it was stated in a past issue of "A.R." that he was moving over there for good. Goes to show you can't believe everything you hear. However, after getting everything in order at his QTH, the dust was blown out of the H.R.O. and when connected to the antenna it came to life, after wiring up a filter network for the product detector Maurie was in business again on the DX bands.

Yours truly is still playing around with 2 mx (receiving, that is). Heard a VK2RJ at 5 and 9, but unfortunately he was stationary mobile on Mt. Dandenong—some DX.

RADIO MAIL

I wish to thank the following for their mail: Chas. Aberneathy, Colin Walker, Eric Trebilcock, Ross Erwin, Don Grantley, David Thomas, Tom Kennedy, and last but not least, Lew Sharpley, a new member from VK4.

Chas. L2211 has not been very active of late due to his son using the shack, and now that Chas. is back in the shack the rare DX is now being caught up. At present Chas. is preparing for the 50 Mc. season, and hopes to have the gear ready for the openings which he hopes are plentiful. A few improvements have been made to simplify operations on the 144 and 50 Mc. bands.

Colin L5056 has not been doing a great deal of listening this month due to the fact that he is studying for the A.O.C.P., which he hopes to sit for in Oct. or January. Needless to say, the rx has had little use. However, a few new Zones have been recorded during the month—they are Finland, Germany, Franz Jozef Land, Mexico, Fiji Island, Canada and Hong Kong.

Eric L3042 to date (9/10/62) has mailed 1264 reports and has received QSLs from 100 countries, 35 zones; also during 1962 125 countries and 38 zones have been heard. Eric is hoping that five or more members of the VK3 Group sent in entries for the VK-ZL Contest as his offer for prizes still stands. Also another offer from Eric. He has a chance to take three other VK3 s.w.l's. on a week-end visit to a well known world DX Amateur located on a farm near a country town 150 miles from Melbourne. Visit will be in early 1963. If interested, contact Eric for further particulars.

Lew L4020 dropped me a few lines of his activities on the s.w. front. The rx he is using is a Zenith, feed with a 20 mx Hirtz antenna running E. and W. While recently looking through the s.w.l. notes, Lew thought he would like to be included in them and wants to send more information of his activities. (By all means do so, OM.) Lew is a new member of the W.I.A., VK4 Division, which has recently got under way and I am wondering if there are any more interested listeners that would like to see their name in print?

Ross L2233/P in VK3 at the School of Signals, Balcombe, on 3rd Oct. was listening to a station called Honolulu Radio. The freq. was approx. 8.96 Mc., the broadcast was in English and the station was giving data on the weather and temperature. The times heard were 2020 to 2025 and 2035 to 2040 E.A.S.T. Any available information concerning this station would be greatly appreciated. Ross is using a National T36T rx with a long wire antenna, 15 ft. high facing S.W. and N.E.

Don L2022 is finding things fairly quiet at his QTH, but managed to cross into VK3 for a few hours during the R.D. Contest and received a total of 414 points. Don also entered the VK-ZL Contest and hopes to receive a good score. Conditions up there are really good and with the gear working 100 per cent. and getting more time to operate, DX totals will be moving up the ladder.

David L2235, while reading Sept. s.w.l. notes, thought a letter from VK2 would not go astray (not by a long shot, David, the more the merrier). Unfortunately listening has been placed in the background due to studies for the Intermediate being more important, but a chance arises to listen occasionally on 40 mx. The equipment being used at the moment is a four-tube d.w. rx, which is the only one working right now, a six-tube English com. rx and a 13-tube Q5er under construction. The antennae are a 20 mx Windom and a five element 2 mx beam. As yet there is no proper radio shack, but when a spare room is available, operating will take place from there. David has held a s.w.l. number for about nine months and has heard three countries (unconfirmed). Quite a few QSL cards have been sent out, but as yet received no returns.

Tom L3112 has received via this column and Hamads offers of help and assistance for his AR8 rx which is at present inoperative, including the offer of the original manual for the rx as a gift and thanks all concerned. Tom has put forward a suggestion to use the following information on QSL cards. The Royal Australian Navy will supply the precise location of the nearest railway station to a QTH, or area of operations, and this may be useful to those boys who go mobile, and need exact bearings for co-ordination purposes. Mr. A. Eggleton, the co-ordinator, Naval Public Relations, Dept. of the Navy, Canberra, is the gentleman concerned. The Navy cannot supply the exact reference to a house number, but the information supplied should be usful for most purposes of calculation. What do you think of this suggestion that members indicate their location in latitude and longitude on QSL cards and reports?

S. Gregory, L5043, who did not leave a christian name, may be leaving the ranks of s.w.l. and may join the Z calls on 6 mx by the sound of things. He has recently completed the construction of a 4 element yagi and a three-tube converter for 6 mx. The rx being used on the lower bands is a Marconi B28, the antenna system is a 10 and 20 mx dipole, 25 ft. high, also a 15 mx and 40 mx doublet (also suitable for 20 mx), and a longe wire is being used for 80 and 160 mx.

Wishing all Short Wave Listeners and Amateurs all the best for Xmas and the New Year, and hope those long-awaited QSL cards come to Ye in '63. 73, Robert, L3076.

DX LADDER FOR DECEMBER

	Countries Conf.	Countries Hrd.	Zns. Conf.	S.s.b. Conf.	S.s.b. Hrd.	W Stat.
E. Trebilcock	277	282	40	—	—	50
D. Grantley	111	250	38	16	95	34
A. Wescott	84	159	31	9	107	11
M. Hilliard	69	211	33	9	116	11
M. Cox	56	217	29	20	128	15
C. Aberneathy	44	85	27	—	—	14
N. Harrison	38	92	27	—	—	28
P. Drew	33	180	19	7	93	4
I. Thomas	28	134	18	8	88	11
P. Fields	26	133	—	—	—	—
D. Jenkins	10	141	7	—	—	—
H. Burger	6	185	5	1	19	—

YOUTH RADIO CLUBS

Did you know that we now have the official approval of the N.S.W. Dept. of Education? That we have the ear of the Boy Scout movement? That both the executive and engineers of the commercial broadcasting stations are very interested indeed? That the Air Training Corps in many centres would gladly have their classes do our certificates for higher all-round efficiency? That we are going to have more and better publicity for the real benefits of Amateur Radio than any other activity you can think of?

You don't have to force yourself to do something for a Youth Radio Club if you have experienced, just once, the expression on the face of a boy who has just heard the faint signal come through the little set he built himself, or the light in the eye of a youth of 16 or 17 who shows you the letter telling him he has passed A.O.C.P. You're on a certainty—anything you do for this movement MUST be for the good.

Harking back to the commercial broadcasting people, I must tell you that this is absolute fact. Here in Canberra, the manager of 2CA telephoned me to ask if I had a boy in the Lyneham High School Radio Club who would like a job. He reasoned, with good sense, that 2CA would be getting a trainee technician who would (a) have much basic knowledge, (b) have proved his aptitude for further study, (c) have settled in his mind that this was his career for good. One of our boys now has his job waiting for him after his Leaving Certificate examination. There was a further idea of an address to the Federation of Commercial Broadcasters on the Youth Radio Club scheme but it was not possible this year as the programme was already arranged. The chief engineer of the local t.v. stations is also interested in the possibility of trainee technicians. I understand all broadcasting and t.v. stations are short of technicians and trainees of quality. You Club Leaders—go sell 'em!

Without too much of a blow on the trumpet, can anyone beat this under present regulations? One of our boys, George Brzostowski, passed fully in A.O.C.P. at the age of 16 years 1 month, and is now VK1GB. We're proud of George's feat, but we'll gladly salute any better.

The N.S.W. Dept. of Education has officially approved Youth Radio Clubs in High Schools and it is expected that this will not only give the green light to Science Masters but will also lead to Summer Schools to train science teachers in basic radio and methods of running a radio club. Surely each W.I.A. Division can get this far!

As your semi-volunteer scribe, I appeal to you all to give me information on club activities. Let me know about your members and your gear (or lack of it). Particularly let me know everything to the public credit of the movement—such as, for instance, boys who get a job through your club, all forms of public service and display, progress with State Departments of Education, etc. No letter is too trivial, and I hope to hear from all States. Can you write me a brief summary of all activities from the very beginning? I want to card-index you all and prepare a very thick file to re-inforce our next I.T.U. case. This is a situation where we must not only do good but also blow off about it.

A parting thought—when you write, can you tell me that your local parliamentary member is a patron of your club? Surely you can manage at least the mayor, if not both.

73, Ken VK1KM.

SIDEBAND

Phasing, Xtal Filters, Balanced Mod., Linear Amps., Vox

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RECEIVING S.B.

One of our regular contributors is Lance 3AHL, whose 288 Mc. s.s.b. tx and converter was featured in a recent s.b. column. This 288 Mc. equipment caught the eye of "CQ's" V.h.f. Editor who wrote it up and also made the claim that VK3AHL was probably the only Amateur Station in the world transmitting s.s.b. on this band. Here Lance turns our attention to the detector-audio part of his receiver. He writes:

"I developed the audio derived a.g.c. circuit shown and have used it to great advantage on 3.5 Mc. as signals in nets differ over a wide range in strength. I have it arranged to function on any mode if desired with diode or product detector. Normal a.m. a.g.c. is available only with the b.f.o. off. The hundred ohm resistors on the disable switches are to prevent the discharge of heavy current through the switch contacts when the a.g.c. line is disabled. This current could reach a peak value of several amps at the moment of closing, apart from this, the heavy thump needs suppressing.

"The s.s.b. a.g.c. mainly depends on the ratio of forward to back resistance of the 1N52 diode to get rapid attack and slow discharge. The cathode voltage of the 6AK5 is used to provide a delay bias to the GEX35 circuit of about 1 volt. In the grid circuit of the 6AK5, low audio frequencies are attenuated by the 680 pF./2.2 megohm combination to avoid a low frequency instability that occurred when the receiver was tuned to a strong carrier."

The product detector is that used by Collins with a minor modification, a 2,200 ohm resistor used to replace an r.f. choke in the signal grid (pin 2) of the 12AU7. Lance continues:

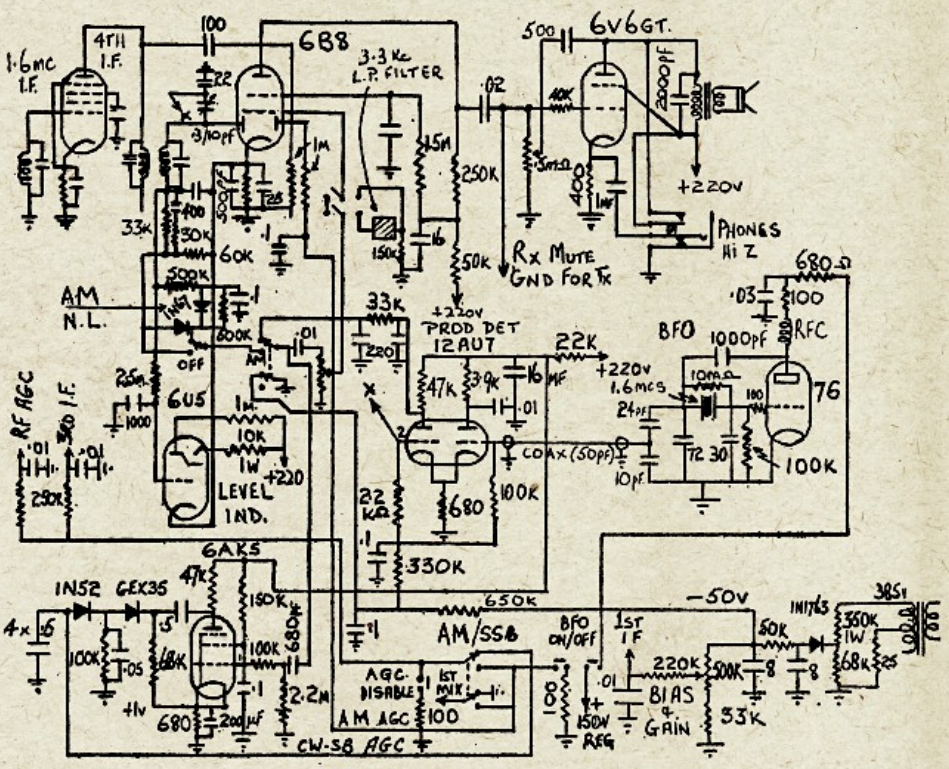
"I note that Collins often used very low grid resistors in the signal input. This must be connected with the overload capabilities of the detectors. One of theirs has 1,200 ohms and another 1,800 ohms. I settled for 2,200 ohms as shown. I adjusted the capacitive divider of the last i.f. transformer so that the output of the product detector is about 6 db. above the diode detector. The product detector is disabled by application of minus 50 volts to both grids similar to the KWM1. The i.f. of this receiver is 1600 Kc., so filtering of the detector output is less of a problem.

"A.g.c. is removed from the X61M converter tube when audio derived to avoid undesirable frequency modulation of the local oscillator. The low-pass audio filter is well worth inclusion in a receiver of this type and is located at the opposite end of the chassis to the power supply in case of a.c. induction. This is a commercial 3.3 Kc. filter."

A BUG SQUASHER

During a recent discussion in an 80 metre hook-up on the subject of instability in exciters, receivers and so forth, Phil 5NN passed on a worthwhile hint. When using shielded hook-up wire to prevent r.f. pick-up between stages, use the "old fashioned" shielded wire with rubber and cotton insulation between the inner conductor and the sheathing. The reason being that this cable is 'lossy' at r.f. Plastic insulated shielded wire could take along a little r.f. with it.

Do you have a "bug-squasher"? Let's know about it.



VK3AHL's receiver modifications.

D X

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

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The consensus from mail to hand is that the bands are worse than they have ever been at this time of the year. It figures, as last year's smooth Sunspot Number at this time was around 50 or more, and it will be down to approx. 15 next year. Not until 1967 can we expect the bands to really brighten.

Our present DX is governed by what is known as Sunspot Cycle 19 (1954-1965). The peak occurred during January 1958 when the smooth Sunspot No. was 210. It has now declined to a Spring No. in the vicinity of 30, and there is still more than two years of steady drop, when the smooth No. will be 10 or maybe less. This should occur around January 1965; after this, things should begin to improve, but probably not for 40 years or so will they be as good as the cycles past.

Ole Man Sol will carry on in his eternal way, but the next two score years is going to see an undreamt-of change in electronics and communications—and space travel, maybe W.A.S. Mars is not so fictional as it used to sound.

NOTES AND NEWS

Danny ZK1BY is operating from Suvorov in the Manahiki Group (Cook Is.) on 7006, 14065 and 14195; best time for the latter frequencies is around 0300 hrs. G.M.T. Next port of call is American Samoa, and then ZM6. More news as it comes to hand.

CR8AC, Portuguese Timor. Conditions being suitable for VK, many QSOs were had. Some have already recd. his QSL card. It comes from Aurelio Fernando De Brito Seco, Capitania Dos Portos, Dili, Port. Timor.

VK9LA, Cocos Keeling Is. If you still want this one, be patient as he is QRX for an HT37. However, listen on Mondays at 1300z on 14115 Kc.

JT1KAC and JT1KAG, Ulan Blator, are both fairly active on about 14020, mostly early evenings. You send the QSL marked JT13.

The following by courtesy of Bev. Cavender. The Florida DX report: Gus has left for Gough Is., ZD9AM. He plans to spend about 12 days signing ZD9AM. It will take about 10 days for Gus to reach Bouvet Is., where he plans to use LA0A for three to five days.

W4SSU says in the S.E.D.X.C. Weekly Report (W4MCM editor) that Marge ZS1RM says there is at least limited 14 Mc. s.s.b. operation from ZS2MI, Marion Is. Marge plans to DX-pédite to Marion with c.w. and s.s.b., come next April or May.

It is fairly well known that ZS2MI shows for about an hour on Sunday mornings, around 14060 at 1500. On Sunday afternoon, Oct. 21, K4WIS telephoned long distance to your editor to inform that ZS2MI was on 14018 at 2000 G.M.T. Sure enough he was.

ZS6BBB and ZS6PC will be on from Bechuanaland from Nov. 29 to Dec. 3 according to N.E.D.X.A. Operation will be s.s.b. using 14315, 21445 and 28465 according to W.G.D.X.C. (Call down ten.) K4QBP has received some requests to see about ZS6PC/ZS8 cards which have not been received by some members of F.D.X.C. Warren talked with ZS6BBB about this (he was on the DX-pedition), who said that anyone who has not received a card from the earlier, or the coming-up DX-pedition, should send him a card s.a.s.e. and he will make sure that the card is answered. His address: P.O. Box 9299, Johannesburg, South Africa.

Heard Is. Steve VK0VK expects to be operational from Heard Is. for approx. one month as of mid-January 1963. QSLs for the Heard Is. DX-pedition only will go via Nikki, K5ADQ.

Kermadecs to be on the air in mid-Nov. as Ian ZL4JF signs ZL1ABZ. QSLs to ZL2GX.

Dick W0MLY is to DX-pedite to Navassa Is. in December.

DX Flash de K6BX. Don Miller, W9WVN, M.D., in AF, is headed for HL9KH for two years commencing Nov. 1, 1962. Will operate c.w. and s.s.b., 10 through 160 mx. He is seeking permission to DX-P from AC3, AC4, AC5, AP, BV, CR9, CR8, FU8, KA0, KB6, KC6, KG6, KJ6, KP6, KS6, MP4, TA, PK, VK9, VR1-3-4-5-6-9, VU4-5, XZ2, YA, YI, YJ, YK, ZC5, ZM6, 3W8, 4S7, 9M2 and 9N1. All QSLs will be promptly handled by W9VZP. Don says he will attempt to fulfill all requests for skeds handled through W9VZP.

HP1IE is expected to show on 7 and 3.5 Mc. very soon.

On the home front Frank VK2QL reports a membership in excess of 300 for the QRP Club. Some VK members are 3NC, 3RJ, 2QL, 4CK, 7SM, and yours truly. Any one of us will be happy to give interested parties partic. and benefits of same.

George VK5RX writes and supplies info. on several Awards. Recently he has received the W-38-Z (1st VK), OHA, WAZ, Taiwan Award, WSPX, W-21-Meridian, WA-VQ, etc. (Where do you put 'em all OM?)

VK3KB has made the "CQ" Honor Roll, WPX c.w. 400. 1st VK. (Nice work, Alf.)

ACTIVITIES

Ken VK3TL reports the 14 Mc. band good during the afternoon and early night. He worked on 14 Mc.: AP5AH, CT1DJ, DJ2-4-5-6-7, DL3-7-9, DM3, DU1FM, EA1BC, F7BK, F8IH, F9OQ, G2-3-4-5-6, GW3JI, HA1KSA, HB9, HC-1JU, HC0NE, HK3, HK7YC, I1ZL, I1NU, JA, KC6, KL7, KR6, KS6, KZ5EM, LA5HE, LA5VH, LZ1KPG, MP4TAM, OE1RZ, OH1-2, OK1-2-3, ON4GL, PA0ADP, PA0LOU, SM3, SM5, SM-7CAB, SP5RP, SP6QH, SP7HX, SP8SR, VE1-3, VS4RS, VU2LN, VR2, XE1PJ, YU1NDU, YU-1HQR, YU2AKL, YU3YU, YV5, ZK1AR (Manahiki), ZK1BY, 9M2FK, UA1-3-4-6-9-0, UB5, UC2AR, UL7NB, UM8FZ, UM8KAA, UT5AA, UT5CO. 14 Mc. phone wkd.: CE0ZI/MM, CR-9AH, DJ1-3-5, DL1, DL9, F2KC, F3EG, F8PK, FK8AC, G2-3-6-8, GB2SM, GW3AHN, HB9, HK3LX, I1CWN, I1TMG, KP4, KL7DGB/KS6, KZ5LA/MM, KZ5WZ, OA2AA, OA2J, OA4AI, OE1RZ, OH2NI, ON4QX, PY2QT, UB5UN, UM-8KAB, VR3O, VR5AA, XW8AT, YS1O, YV-3DL, YV5, ZE4JN, 4X4FQ, 5A2TZ, 9M2. QSLs rcd.: DJ5GG, MX, DJ6SI, FI, DJ8CC, DL-1XZ, DL8BL, DM2BTO, DM3ZCG, G3MBN, ID, GQS, G8TC, HC1AGI, JZ0ML, KX6AM, LA8WG, LU3HL, OE3RE, OK1KDT, ADP, OK-2YF, QR, OK3KAG, SM5CO, SP8HT, UA1MA, UA0KFG, EK, VE4JT, VP5MJ, VQ9AA (Aldabra Is.), VR2DK, VS1GC, VU2PS, XE1OK, XW8AS, YV1EL, ZS1CD.

> • An official bulletin from the A.R.R.L., No. 856, states that American D.X.C.C. credit will not be given for contacts where either station is operating by telephone using frequencies between 14,000 and 14,100 kc. This move by the A.R.R.L. is to enforce the principle that the bottom 100 kc. of the 14 Mc. band is to be used exclusively for telegraphy.
>
> —VK4SS.

Chas. L2211 logged in the past month on 14 Mc.: TI2JC, G2FHM, EA3NI, G3FUT, EA3JE, CP1CT, HK7AJF, HK7AJP, OA4AA, OA4PE, YV5BFD, YV5BMG, OA2J, VS1GC, OA4CR—all between 1600-1800 hrs. E.A.S.T.

Bev. VK4BL, from Nth. Qld., QSO'd these, on 14 Mc. c.w.: JA5AJQ, JA6EI, JA7OD, UA-0SZ, UA9JS, UA4PZ, UW9UI, UW0SD, UT5EW, UB5SE, UI8KAA, DL7GF, DL3RK, DJ1BZ, DJ8CN, OK2QR, OH5PT, HL9KB, SP8KAF, SP2AJO, CR8AC, VU2GD, G6ZO and many others. Some that got away were: UD6BU, UQ2DR, DJ4KF, DL5SL, ZK1BY, I1IF, SM-7CXH, LU6DJX, YV1AD, HA7KPF, HB1WL, HC1JV, OH7QN, GM3CIX, FB8ZZ, VS1FZ, VU2LR, XW8AL, ZC5FF. Please write again, Bev., OM.

George VK5RX wkd. this nice lot, all 14 Mc. c.w., times G.M.T. (JT1AG (1130), AP5AH (1204), VP9DL (0704), OH5TK/0 (1520), CT2AI (0834), EA4CR (0818), OE1RZ (1503), F8IH (old FA8IH, 1443), YO6KBA (1600), SP5GX (1615), ON4LX (1657), PA0ADP (1408), UM-8KAA (1145), KP4BBN (0740), UP2NV (1510), and lots DL, SM, OH and usual assortment of UAs.

Garry VK5ZK sends in info. on 21 Mc. band. He reports the band open around 0000z and 0600z each day. He wkd. the following, all phone. W1SWT/AM (between Wake Is. and KH6), 9M2DQ, VS4RS, ZE2SA, ZE8JZ, ZS-6ATF, ZS6AXI, 5R8AA, FZ8ZZ, VQ8, KS6, I, G, F, DJ, DL, PA0, SP8, YO2, ON, F2BA/MM (in Bay of Biscay), OE, VU2CQ, SM, Gs including G5HZ, G3HFD, G8PO (s.s.b.), G3OHN, F2XY, I1ZM, I1PAJ. (Please send in more news, Garry, es hope ur s.s.b. wks. out f.b.)

Hal VK4DO says he has never known the bands so poor for this time of the year. He did log these, 14 Mc. c.w. wkd.: AP5AH, CP5EZ, CR8AC, DJ3HW, DL1IN, FK8AY, G2DC, HP-1IE, JA, KH6, KR6LJ, KR6ML, OA4PZ, OK-3DG, UA0OM, UA0KZB, UA0KCA, UA9VB, UA9DN, VE, VU2BG, W, YV5BCG, ZK1AR, ZK1BY. 14 Mc. c.w. hrd.: CE3VD, DU1OR, EA3JE, G4CP, HC1JU, HL9KB, KP4BIQ, OA-4CQ, OH1NK, OK1ASY, OK2KAU, OK2EI, UA0S, UB5ZV, UL7KCR, UL7KS, UL7KDF, VR5AR, XZ2KN, YU2JKL, 3A1AS. 21 Mc. c.w. wkd.: I1WSG, UA4KEA, KR6NAA. 21 Mc. c.w. hrd.: VS1FZ, HA5KBP, I1NAL, IS1SZU, SP1AGE.

Frank VK2QL reports Europe not audible in mornings. His list is, 3.5 Mc. wkd.: W2PEO, W2BIQ, W8NBK, ZK1AR, W4VCA/KH6, VE-3EK, K1LMO; heard HI3PK, JAs. 7 Mc. wkd.: DU6TY, G3JAG, G3HDA, PY1NFC, UA1NZ, VS4RS, G3FXB, DL1CF, G5DQ, XE1OK, JA-1DMX, JA3DKT, JA6BPN, G6XN, SM5CCE, ZD6JJ, ZK1BY (Manahiki), HM4AQ, VS1LJ, ZB1CR, W1IZY via l.p. (2015), DL1KS, G5WP, ST2AR, YO7GB, G3KSH, VQ4IN, DL7JA. 14 Mc.: VS4RS, HS1T.

Eric BERS195, who will be in W.A. for the Games, writes that he has had very good year for s.w.l'ing. He has recorded these of late. 3.5 Mc.: ZK1BW, VE3EK, W2PEO, W8ANO, ZK1AH, etc. 7 Mc. c.w.: BY1PK, 3A2BP, ZB1CR, VS1LJ, DU1BSP, UD6AM, 9M2RI, UH8BM, UL7NB, VQ4IV, ZD6JO, 5B4BP, HI-3PC, GC2FMV, KG6NAA, LA2PH, 4X4WF, ZB1BX, KX6AJ, and many others. 14 Mc. c.w.: DU1FM, FK8AS, KC6BD, K5FOQ/KS6, KM6CI, ZK1AR, VR2EH, FO8AA, ZC5FF, VR5AA, VR-5AR, VS4RS, HK7ZT, XZ2KN, UI8KAD, VR-4CV, ZK1BY. QSLs rcd.: PY2CD, UT5CQ, UR2AR, KR8AP, XZ2BB, YJ1RH, ZS6AXU, CE8AA, HL9KN, JZ0ML, KC4USB, UQ2CC, VU2LNZ, YV2BJ.

Pete Drew, L6021, took the trouble to supply a very comprehensive condition report and included his list of those heard during the past weeks. They are, 15 mx a.m.: KA2RF, DU1MR, DU1EH, ZE7JR, KR6NG, ZS6AXI, ZS1JQ, VS4RS, DU1AN, KR6RB, VS1GC, KR-6PS, KH6EVT, KR6IF, DU9PET, VE6EW, VQ-4DW. TN8BA, 9U5BB (0802z), GM3OCV, 9M-2GF, 9M2DX, 4S7YL, DU7SV, UB5LV, etc. 15 mx s.s.b.: KA7DM, KR6MD, KA2OV, VR2DS. 15 mx c.w. KR6NAA, VQ2MS, VS1IG, UA-0KKD, SL5ZL, SM5ZS, 4S7PG, KR6ML. 20 mx a.m. 4S7YL, YV5BFD, VR2DI, JA9JT, OA2J, ZE7JR, 9M2DQ, KR6NG, ZK1AR, 9M2GH. 20 mx s.s.b. KC6BK, ZS6UR, PY2AK, KC4USE, VR5AA, KR6OH, KR6DI, YV5AHG, VR3O, KR6LJ, MP4BBW, UC2AA. 40 mx a.m. W3PHL, VR3O. 4S7YL. 40 mx c.w. 9U5BZ, YO6KBA, VS1FZ and others.

ADDRESSES

VP2GAC—Via W4OPM.
6W8DE—Saint Hilaire. Box 3033, Dakar, Senegal.
6O1ND—American Embassy, Mogodiscio, Somali.
5T5AB—Box 100, Nouakxhott, Mauritania.
TT8AL—Box 235, Ft. Lamt., Tchad.
ZA2BAK—Box 28, Tirana, Albania.
PZ1BH—Via WV6SBO.
CN8FU—Box 2424, A.P.O. 30, New York, N.Y.
9K2AM—Box 146, Kuwait, Arabia.
VS5GS—G. Scott, S.O.A.S. College, Brunei.
KC6BD—C/o. Weather Buro. Truk, East Caroline Is.
TA2BK—Via DL3DA.
9G1DE—Via K8IQQ.
PJ2AF—Via K4OGT.
9N1CJ and 9N1MD—R. Dennis, WBCJ, 5232 Wentworth Dr., Oxen Hills, Wash., D.C.
6W8DT—Box 3033, Dakar, Senegal.

News just to hand says that VS1FJ is scheduled to be active from Christmas Is. in Indian Ocean early in January.

9NT5O (not a misprint) is ex-W6RTK. He is active week days from Nepal on 14230 s.s.b.

Antigua, VP2AL is on the air on 21 and 14300 kc. around 2100z.

ET3Y is expected to show from Yemen any time now using 4W1 prefix. (My thanks to Bob K6CQM for these items.)

Merry Xmas to one and all, and here's to our togetherness in the Ham Spirit in 1963. 73, Al, VK4SS.

W.I.C.E.N. EXERCISE BY S.A. DIVISION

At the first meeting of the S.A. W.I.C.E.N. Activities Committee, it was decided to hold two on-the-air exercises in the coming two months. Before describing these two exercises in detail, it should be mentioned that the Committee decided:—

(1) To recommend to all South Australian W.I.C.E.N. members to buy Army Ordnance Survey Maps of Gawler, Adelaide and Echunga. These may be bought from Sands & McDougall, King William St., Adelaide. Members taking part in the second exercise will have to have the maps of Gawler and Adelaide.

(2) That all exercises in the immediate future will take place on either or both 3.628 Mc. and 53.1 Mc. telephony. It therefore recommends that mobile W.I.C.E.N. equipment be crystal controlled on these frequencies.

The first exercise was held on 28th Nov. on 3.628 Mc. and 53.1 Mc. It was a general get-together of W.I.C.E.N. members and those interested in W.I.C.E.N.

The second exercise will be held on the afternoon of Sunday, 2nd Dec., starting at 1330 hrs. As well as giving practice in emergency communications and map reading, it could be a pleasant afternoon's drive in the country. Although primarily intended for mobile transmitting stations, members with fixed stations only or mobile receivers may, and indeed, are very welcome to participate. The exercise will be of a competitive nature and the winner will be given a 14 Mc. crystal.

The exercise will take place in four stages. Should a member find it is impossible or inconvenient to take part in any stage, he is quite at liberty to miss that stage and join in at the next control point. We want members to gain practice in emergency procedure —the points system adds interest but is not so important.

The rules to be described apply to mobile transmitting stations. Modifications for members with fixed stations only or mobile receivers will be given after a member scores points as follows:—

(a) For missing a check point in the time allowed .... 25 points.

(b) For every mile travelled in excess of the minimum distance between check points .... 5 points.

(c) For every incorrect phonetic used, 1 pt.

(d) For every omission of the word "figures" before any number group except a map reference .... 1 point.

(e) For every omission of the name of the map in use, for every omission of the words "map reference" before giving the six figures of a map reference, e.g. "Gawler may reference 123321" is correct, but "map reference 123321" or "Gawler 123321" would lose you one point.

The N.A.T.O. phonetic alphabet will be used. This is the Australian emergency communications phonetic alphabet.

If a member wants to omit one stage but still stay in the contest side of the exercise, he should have his speedometer reading noted by one of the control station operators at the previous check point.

The winner will be the station with the smallest score, and will be announced on the VK5WI broadcast of Dec. 9.

RULES FOR MOBILE TX STATIONS

In each of the four stages there will be a control station on 3.628 Mc. and 53.1 Mc. Upon request they will give the mobile a map reference to which they must go within the time allotted.

Stage 1: Starts 1330 hours. Control stations: VK5KC and VK5ZCQ. Both within five miles of G.P.O. At 1400 hours both operators will close down their fixed stations and operate as VK5KC/M and VK5ZCQ/M, still acting as control stations until 1415 hours, when stage 1 ends.

Stage 2: Starts 1415 hours. Control stations: VK5TM/M and VK5ZJM/M. The map reference they will give upon request will be their own. They will be located somewhere between Elizabeth and Gepps Cross. Stage 2 ends at 1515 hours.

Stage 3: Starts 1515 hours. Control stations on both channels, VK5PE. The map reference will be that of VK5QL, mobile on 53.1 Mc. somewhere between Elizabeth and Smithfield. Mobiles on 3.628 Mc. may communicate with VK5QL/M by being relayed on 53.1 Mc. by VK5PE. Stage 3 ends 1600 hours.

Stage 4: Starts 1600 hours. Control stations: VK5NQ and VK5MK/M. The map reference will be that of VK5ZMK/M, somewhere near Gawler. Stage 4, and the exercise, will end at 1700 hours.

Mobile Receiving Stations will have to wait until the map reference is given to a mobile transmitting station.

Members without Mobile Equipment will have to receive the map reference by word of mouth from mobile stations at the check point.

Six metre mobile stations without a crystal for 53.1 Mc. note that the Elizabeth Amateur Radio Club and its members have a limited amount of 5.900 Mc. crystals (5.9 x 3 x 3 equals 53.1) to lend for this exercise and will later have more such crystals for sale at a nominal price.

—S.A. W.I.C.E.N. Activities Committee.

FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

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(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

NEW SOUTH WALES

The Dec. meeting of the N.S.W. Division will be held at Wireless Institute Centre, 14 Atcheson St., Crows Nest, on Friday, 14th. The meeting will be in the form of a social evening to which members may invite their XYL, YL, etc., and the entertainment has been specially arranged to cater for all. A talk will be given by Mr. Gordon Sanders, of the Dept. of Civil Aviation, entitled "A Field Day with a Difference." This talk, illustrated by slides, is something different from the usual run of Ham Field Days.

In addition, there will be two films of a non technical nature on Amateur Radio. One of these films has been shown on ABN2 television. Members are asked to bring the XYL, YL, etc., and make this evening a social success.

Since the last notice in "A.R.," eight lecture tapes have been compiled by the Education Officer, Harold 2AAH. Thes are as follows:—

1—**Quad Antennae**, by Harold 2AAH, Sid 2SG and Ted 2ACD. This interesting tape runs for 68 minutes and is illustrated by 20 slides.
2—**Linear Amplifiers**. A tape by Mr. Bob Wilson, which runs for 60 minutes and is illustrated by seven slides.
3—**Transistorised Converters**. A tape by Syd 2SG, which runs for 60 minutes and is illustrated by 12 slides.
4—**Tally-Ho**. An excellent tape on 7 Mc. Fox Hunts, which runs for 60 minutes. The talk is by Harold 2AAH and is illustrated by five slides.
5—**Grid Dip Oscillators**, by Bob 2OA. This tape runs for 80 minutes and is illustrated with 15 slides.
6—**Balun Transformers**. This very interesting tape by Joe 2JR, runs for two hours and is illustrated by 33 slides.
7—**How and Where does my Signal go?** A tape by the Ham who does know where your signal goes, Frank 2QL. Illustrated by 17 slides.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK5AB	45	275	VK6KW	4	206
VK6RU	2	272	VK3ATN	26	204
VK6MK	43	263	VK4HR	12	192
VK3AHO	51	255	VK4RW	23	184
VK4FJ	21	236	VK3GB	50	183
VK3WL	14	211	VK5WO	59	178
Amendment:			**New Member:**		
VK2AGH	55	103	VK7AI	60	102

C.W.

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3KB	10	305	VK3RP	56	229
VK3CX	26	288	VK3FH	15	226
VK2QL	5	279	VK3BZ	6	222
VK4FJ	29	270	VK4HR	8	218
VK3NC	19	261	VK2AGH	71	216
VK6RU	18	234	VK3XU	48	213
Amendments:					
VK3YD	27	206	VK7SM	72	134

OPEN

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK2ACX	6	300	VK3AHO	76	259
VK6RU	8	283	VK3HG	3	252
VK4FJ	32	276	VK4HR	7	233
VK6MK	74	266	VK3BZ	4	231
VK2AGH	83	265	VK3JA	43	229
VK3NC	77	265	VK3WL	45	225
Amendment:			**New Member:**		
VK7SM	84	152	VK4SN	88	100

These tapes and slides are available to members, clubs, etc., and have been specially prepared for use of country clubs, so contact Harold 2AAH for particulars.

The Council wishes to thank the following members who have donated gear to the Youth Radio Scheme: VKs 2IJ, 2CA, 2ST, and Arthur Sutton. How about going through the junk box and making up a parcel of the gear you do not need and forward it to the Wireless Institute Centre for despatch to the various schools that are training boys in the art of radio?

The Annual Convention of the N.S.W. Division will be held during the Anniversary week-end in January. The Annual Dinner will be held at Wireless Institute Centre on Saturday night at 8 p.m., and the Field Day will be held at VK2WI transmitting centre at Dural on Sunday. A Convention Committee has been formed and are holding regular meetings to arrange events for this week-end Convention, so it should be a success. 73, 2VL.

HUNTER BRANCH

The most recent meeting of the Hunter Branch of this Institute was held at the Newcastle University College on Friday, 12th Oct. Thirty-three members and guests were present to hear a most interesting lecture from our renowned associate of Mr. Marconi in the person of Mr. Joe Reed, who had undertaken the trip from Sydney earlier in the day, used a magic lantern to show some very enlightening line drawings and woodcuts depicting the state of the art. As well as the excellent pictures, the interested gathering was treated to a demonstration of Mr. Reed's famed talking machine, a compact instrument, no larger than one of Mr. Marconi's wire-less receiver cabinets. So great was the interest shown in Mr. Reed's discourse that several of the more ambitious of our gathering remained after the others had left the room to ply the lecturer with questions. Mr. Reed patiently answered each in turn and our correspondent at the gathering, who was one of those interested enough to stay after the lecture, reported that Mr. Reed filled several large sheets of writing paper with further line drawings, used, no doubt, to illustrate points not completely covered in the talk.

Those contemplating using any of Mr. Reed's ideas in their own residences are advised that he has gone to considerable length to make available, for a most modest fee, superbly engraved prints, about the size of a post card, of all of the illustrations used during the evening. Keen students would do well to take advantage of this offer and will no doubt contact Mr. Reed at his home to make the necessary arrangements.

However, for those more interested in the happenings of our immediate neighbourhood, here, in detail, is the news of the month couched in slightly more modern terminology. The three t.v. stars of the Branch are still recovering from their escapades of the week-end of the Scout Jamboree on the Air. During the week-end Jim 2AHT, Vic 2AKP, Kev 2ZKW, Gordon 2ZSG and the Hamburgers 2ATZ made stations available to the Scouts of this area. Lots of interesting fun was had by all and the local station NBN gave the boys and the W.I.A. some very good coverage in news and presentation telecasts. Thank you NBN and thanks also to the local boys who did a good job in promoting the cause of Amateur Radio.

By the time you read this, Lionel 2CS will have returned from his sojourn at the Amaroo residence of Ray 2HC. It is hoped also that he will be fit enough to return to his place of employment at the hot water board. The reason for the non-appearance of Kev 2ZKW of late is the magic call of the silver screen with Kev emulating the pious example of Cecil B. DeMille and getting some films ready for Christmas. When he does return to the 2 mx band you will no doubt wish to hear him and if so contact Mac 2ZMO who has at least a dozen spare converters for disposal (so I am told). Bill 2XT at this time is still on his Oriental orientations but should be back in time for our December meeting—and more of this later.

It is also reported that Varley 2SF has been seen walking along Hunter Street of late with a large plastic bucket, muttering something about Stuart and suds. Perhaps those in the know will enlighten me. Stuart in the meantime is running up some good scores in the 50 meg. band with regular contacts to VK3, 4 and 5 using his simple "elementary dipole" as it has been dubbed. Not so fortunate is the plight of Neil 2ZCU who was involved in a car smash recently and is now an inmate of Hornsby District Hospital. Best wishes Neil and hope that some of the Sydney boys will be able to visit you. Ian 2ZIF has just completed a 2 mx transceiver in a lunch box. This is used to fool the fellow employees I am informed. Norm 2ZNF is still twiddling knobs on the AMR300 and up Raymond Terrace way there is a shortage of exercise books because Tom Davis has used them all as log books on the new rx.

Romeo and Juliet, 2RJ to you, are holidaying in VK3, while John 2ZJG is holidaying in Newcastle, doing tech. exams. with ZIF. On the h.f. bands, Vic 2AKP has been bitten by the bug again and is regularly on again, while Rodney 2CN, seeing enough of v.h.f. at work, is now running 120w. on 7 megs. Neil 2XY has been off work for some time with an injured hand and we all wish him a speedy recovery. Ron 2ASJ had a mention on the A.B.C. Hospital Half Hour the other day by courtesy of the Talkative Tough from Turramurra, and Ron also is looking forward to continued activity on 2 mx. Bill 2ZL is looking for some ready made moulds for casting concrete sleepers while his ether (no pun) friend, Bob 2AQR, still conducts regular skeds on 80. Gordon 2ZSG has been heard at Inverell, via radio, and Harry 2AFA has not been heard at all. Four new associates have joined our ranks and more about this next month.

The Dec. meeting, set down for Friday, 14th, is to feature Bill 2XT with most recent films from Japan and all point East, while Bill 2ZL has promised, as is customary, to shout all to a grand Christmas supper afterwards, so come prepared. All the very best for the festive season from the scribe and all the boys and try to make it on the 14th to meet all your log book friends. All the others will be there, so see you, 73, 2AKX.

BLUE MOUNTAINS SECTION

The Oct. meeting held at Lawson was disappointed again as Les 2ZBJ was still away and could not give us his lecture, although I understand there was a mix-up with yours truly. Fifteen members attended and the final arrangements were made for the field day and turned out an excellent day.

It was held at Lawson Swimming Pool with a record attendance of 56, including a DL3OF. Dave 2NK, the Section President, welcomed all and asked Max 2MP, the Div. President, to present the prizes, the results which were as follows: 144 Mc. hunt, 1st, Dick 2ZCF; 2nd, Tim 2ZTM. 144 Mc. scramble: 1st and 2nd a tie with 21 contacts, Dick 2ZCF and Dave 2AWZ. 7 Mc. scramble, 1st, Harold 2AAH (13); 2nd, John 2WJ (10). Gents' lucky number, 1st, 2ZTM; 2nd, 2ADA. Ladies' lucky number, 1st, 2ASZ; 2nd, 2ADA; 3rd, 2ZJC. Bob 2ASZ was the fox and hid the tx in a record

W.I.A., N.S.W. DIVISION

ANNUAL CONVENTION

ANNIVERSARY WEEK-END

THE ANNUAL DINNER will be held at 14 Atcheson St., Crows Nest, on Sat. at 8 p.m. Sub. 25/-.

THE FIELD DAY will be held at Dural on Sunday. Sub. 10/-.

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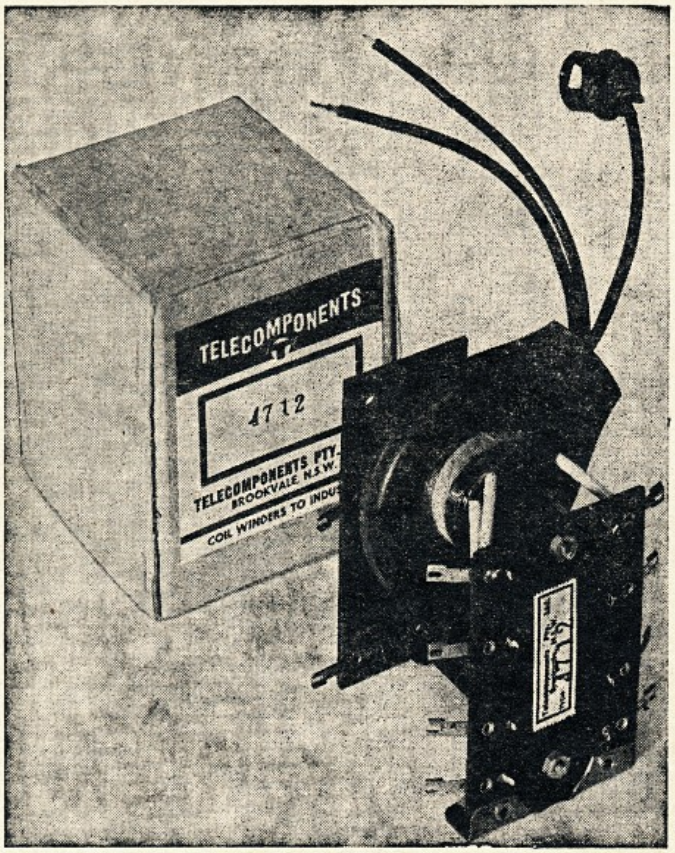

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player, hi! It had them all guessing and Bob innocently redirected Dave 2EO in the direction of Katoomba and it was not until Dave enquired who the fox was did he realise he had been tricked. A good day was had by all and it is hoped we shall break another record next year. Prizes were by the courtesy of Philips and B.S.R.

Jack 2NC is nearly ready to go on 2 mx and is copying everybody loud and clear. His gear will be common equipment for mobile and base station with a 640 for the home rig. Noel 2ZNS has already turned the first page in his log using an 832 in the final. He gets out well to north, south and west, but not so well to the east. I understand in Dec. Noel will raise his antenna for city contacts. 2ABY is back in the district and is on 2 mx, operating from Penrith. Trevor 2TM has moved lower down the mountains to Glenbrook, but as yet still not on the air. Arie Bless, from Springwood, has received his call, 2AVA, so keep a listen out for Arie on s.s.b. instead of Alec 2EX.

Jamboree stations were operated from 2NK, 2AVA, 2AVN, 2ART, 2ADA, 2ASZ and 2AAT, and most contacts were made on 2 mx. Only the boys who were interested in our "art" turned up this year, leaving the wild ones to their own devices. From all reports it was generally a better year than previous.

The bush fire boys have been out every week-end spotting for fires and had one experience near Warrimoo where communication was excellent and well covered, but the fire fighter co-ordination was a bit poor, but no real danger resulted, so all ended well. 2ADA.

3ACN will have taken the plunge on 17/11/62 and taken unto himself an XYL. 73 and 88 to you both and may all your troubles be little ones.

Jim 3SV is attending to W.I.C.E.N. activities and participated in the recent exercise from which he returned a nervous wreck, hi, hi!

Activities on 144 Mc. have been spasmodic and not much information to hand. However with the approaching summer there should be an upsurge in activities generally. 73, 3ND.

WESTERN ZONE

Murtoa was the venue for our annual get-together last month. We were sorry that because of the passing on of his wife, a former President, Herb 3NN, could not be with us. One of the first arrivals was Trev 3ATR, who came per Cessna aircraft. Having his mobile gear installed in same, he was able to work the local boys on the way down. Mr. Len Grotz, a friend, was the pilot.

Members came from across the border in South Australia, Ararat, Balmoral, and Lascelles, so long distances of our zone were well represented. About 40 made up the party.

Office-bearers for the coming year elected were as follows: President, Merv 3AFO; Vice-Presidents, Bert 3EF and Vic 3AEQ; Sec.-Treas., Bill 3AKW.

The tx hunt was won by Vic Maddern and party. A look over the broadcast station, 3LK, occupied the afternoon. After evening meal at the Commercial Hotel, we all adjourned to Keith's (3ATS) home. Here we saw slides shown by Chas VK3IB, ex-VR1B. These were taken during his stay on the Gilbert Islands and were very interesting. Merv Collins also screened a movie taken from the top of 3WV's mast. After a technical film shown by John Teasdale, we all enjoyed an extra special supper prepared by Kith's XYL, who was helped by Vic's XYL. Many thanks to you both for attending to the inner man so well. 73, 3AKW.

★

The Victorian Division's State Convention was held at Ballarat over the week-end of 3rd and 4th November. The location on Sunday afternoon was Swan Reservoir, where a barbecue lunch was partaken. Members are seen gathered around the home made equipment exhibits.

★

VICTORIA

EASTERN ZONE

Graham 3QZ brought back a 10 transistor Heathkit Communications rx that seems to be an excellent performer. Talking about new rx's, several of the boys have purchased these new Japanese models, which are giving very good results. Bill 3AMH should be on 144 Mc. before Xmas using s.s.b. Ken 3ZNK was successful in passing his full ops. licence. Ken also has taken up a position with the staff of our local t.v. station (Ch. 10). Alan 3ZNB, of Anderson, is now building up equipment for 50 Mc. Peter 3ZGM spent the first week of the month in our zone, operating portable from Wilson's Promontory using the 50 Mc. band.

Our next Zone Convention is to be held at Warragul around March, so any suggestions would be welcomed, constructive or otherwise. 73, 3ZCG.

MIDLAND ZONE

The Scout Jamboree activities were attended to by 3DG, 3ZK, 3ND. I have no information as to just what transpired at 3DG and 3ZK, but for myself the time I had at my disposal was very fruitful and several excellent contacts were made with VK and ZL, and much information flowed back and forth.

We have swelled our ranks with a new call—3ME, and welcome to you OM, good hunting with your Collins' 32S1. May even work you on 15 or 20 mx if skip permits.

By the time these notes appear in print we will have had our general meeting at the Bendigo Technical College on 16th Nov. and reports of the doings will appear next month.

NORTH EASTERN ZONE

3AWT, when on 15 mx recently, had contacts with three stations in Europe and U.K. 3AYD has erected a 22 ft. tower made out of 1 inch water pipe. On this he has mounted a triband quad as per specifications of Jan. '62 "QST". Rotator problems were solved through 3AGG presenting him with car steering box. Alan made first blood into Spain with 5/9 after this. 3ZJH making feeble and spasmodic attempts at morse practice of late and is up to about 7 w.p.m. 3ALF constructed a very effective aerial coupler; his bandwidth has been reduced considerably. Hear tell that 3ACD is going to purchase a brand new rx.

At least 10 of the zone had Scout guests during the Jamboree-on-the-Air, but 3AUL had more than the rest put together, approx. 100 Scouts. October "A.R." editorial re Youth Radio Clubs was read with interest and 3ZGR, 3IG, 3AYD, 3ZJH and 3ASY have all agreed amongst themselves to do all possible in this regard at Shepparton.

3ASY returned on the air for a couple of days for Jamboree-on-the-Air, then closed down in order to construct some test gear such as c.r.o., g.d.o. and an improved freq. meter. 3IG currently constructing a 40 mx converter for broadcast car radio. This unit circuit is from "A.R.," Oct. '60. 73, 3ASY.

QUEENSLAND

The Oct. general meeting held in the State Service Union rooms on 26th was attended by 24 members; quite a drop from the usual number. However, some important matters were discussed. Firstly was the referendum on whether there should be a permanent site for 4WI and the point that only 25 per cent. of members expressed their views. However, the chairman (Pat 4KB) said many indicated the matter should go ahead and a committee formed to go into the questions of land and a building. Bert 4AO suggested that the formation of a committee should be deferred until the acquisition of land had been confirmed. Accordingly, Bert was authorised to go ahead on the land matter.

Concern was expressed on the lack of disposals gear offered so far this year. Only one item, an indicator unit, with valves and power supply, has been put up for ballot. The meeting was told that a letter would be sent to the Department of Supply inquiring into the position.

The printing of copies of the Divisional constitution was again raised. The chairman said the committee formed to review the constitution had requested Federal Hdq. to clarify some points and when a reply was received, the committee would discuss them. Any alterations necessary would be presented to a general meeting for ratification.

Probably the most satisfying point of the business was the acceptance of another seven members into the Division, K. J. Benson (4ZGX), T. H. Cain (4JC), D. W. Reed (4DU), and R. A. Sutherland (9BS) as members, and V. R. MacDonald, H. J. C. Clarke and T. Bain as associates. This brings total membership to over the 380 mark, and it appears the goal of 400 will be reached by the end of the year.

The night's lecture was given by Mr. Bruce Gow, engineer in charge of the Standardising Laboratory, of the Brisbane City Council's Electricity Dept. He spoke of measurement of resistance, current, and voltage using modern methods and equipment. Members have been invited to visit the laboratory on Nov. 30. A vote of thanks from Jim 4PR was carried by acclamation.

INTRASTATE CONTEST

Alf 4OL, and station manager of 4WI, took the Sunshine State Contest held during Sept. He was awarded 32 points which is a creditable performance considering he had to work during part of the set times. Runners-up were George 4GG and Ron 4RG, both with 31 pts., with Al 4LT third with 30 pts. In the s.w.l. section, C. H. Thorpe L4018 was first with 36 pts. Then came L. O'Tully (32) and W. C. Fall (29). Numbers of entries were small. Let's hope many more calls will be heard in the next contest. And while we're about it, now is the time to think and work about the National Field Day in February. VK4 has the chance to put up a great show.

Divisional Council, which met on Oct. 11, is keen to receive items for the agenda for the Federal Convention next year. So what about discussing matters at your next club or Division meeting?

JAMBOREE-ON-THE-AIR

The effort in this event in VK4 this year appeared good, despite the usual poor and changing conditions. We heard of some ambitious preparations but so far words of results have not been received. A number of stations were on in the Brisbane area and some good contacts were made between VK4 and the South with Scouts showing they are just as good at rag-chewing as some of the more notorious operators around the place. 4WI operated from Boy Scout Hdq. in the Valley, but unfortunately few Scouts heard about this station and so missed out going on the air. Thanks go to the operators there, including Vince 4VJ who made quick repairs to the tx to get back on the air on the Sunday morning, even if the news was late. Associate Gill again deserves the thanks of all for supplying the very efficient equipment including the gem of a Hallicrafter rx.

Rx trouble of late and very poor conditions have meant I've not been able to do my usual amount of snooping around the bands this past month. Things have been so bad I've not been able to hear 4WI with the news and yet Alf is no more than five or six miles away, while at other times VK3s, for example, have come through like b.c. stations. But I did hear that Don 4GP has returned from ZL land with tales of how those boys don't have the gear for those kilowatt signals we seem to hear from them. Best wishes for Christmas and the New Year. 73, Don.

THE "DO" AT BARGARA

I must say a good time was had by all. Chaps began to arrive soon after 8 a.m. 4XR and myself did not arrive until about 10.30 a.m. Rusty 4JM and some of the Bundaberg crew were there, getting things set up. 4WQ tx and rx were a Viking II. and a Hallicrafters SX100—kindly lent by Bill Bertram. Bill attended in person with his wife and family and we are grateful to him for the use of the gear. By noon 4SW, 5LN, 4HZ, 4XR, 4XJ, 4HE and many of our associates arrived and we had 18 present for lunch. After lunch, everybody was rag-chewing until the hook-up at 2 p.m. and after afternoon tea at 3 p.m., blindfold hunts were set up and continued until the 7 meg. scramble from 4 to 5 p.m.

After the evening meal, with 39 present, the gathering was officially welcomed by the President 4XR, who was supported by 4LN. A short film was presented by 4LN entitled "Hazard," dealing with safety, followed by a special cartoon for the children. After this, all adjourned outside for the barbecue which was made a little difficult owing to the terrific wind blowing at the time.

4WQ was on the air on the Kookaburra session at 7 a.m. on Sunday morning and all were shocked to learn of 4BJ's misfortune when his workshop was destroyed by fire during the early hours of Sunday morning. Blindfold hunts were continued, followed by v.h.f. tx hunt, until the auction of odd gear. Harry 4ZHG was the auctioneer and did a very good job.

Some very interesting home-made gear was on display, particularly interesting was a home designed rx made by Ken Chiverton, a mechanic associate from Nambour. This rx is an outstandingly beautiful piece of workmanship and would be a credit to any commercial station, also his 6 and 2 mx converters constructed on polished brass chassis to match. Also of particular interest was a Geloso front-end converter mounted in its own case for use with a rx as a complete d.c. rx and a VR power supply constructed by Roy Spotswood. 4XJ brought along his new home constructed Geloso tx, built to the design appearing in "R. & H." some little time ago with a few improved modifications—a really excellent job.

After a further 7 Mc. scramble ,prizes were presented. 4HZ, 1st scramble; 4WS, longest distance travelled; Ken C., best constructed gear, 1st; Roy S., 2nd; Ken C., blindfold hunt; Lena B., ladies' section; Ken C., hidden tx hunt; Bill 4WS, 2nd 7 Mc. scramble. 73, 4LN.

IPSWICH CLUB

During the month the Ipswich and District Radio Club continued to progress. The publicity officer, Bill Jehn, said 38 members visited Brisbane Airport and then had attracted another eight new members at their Oct. meeting. At this meeting, Mr. P. Wood lectured on the fundamentals of radio. The last word was that the club was planning to inspect the radar installations of the Amberley R.A.A.F. base.

SOUTH COAST ZONE

As far as could be ascertained there was no activity here in connection with the Scouts' Jamboree-on-the-Air, this being the first occasion that this area missed in participating.

As usual a number of Southern boys have been on the Coast. Many of these were mobile on v.h.f. and contacts were made with a number of the locals. The outcome, due to the efforts of Cres 4ZAO, was a get-together at Surfers' Paradise near the end of the month. Unfortunately, Eric 2DY was unable to be present due to sudden illness, and it is pleasing to record that he was fully recovered in a few days. Those present were Dick 2ZNL, Cres 4ZAO, Ken 4ZGX, Neil 4WW and Bill 4WS. All appreciate your efforts, Cres, but do not stop there. Let's have another "Do" when another group from the South or any point of the compass is here.

It is regretted to have to record that Ken 4ZGX is returning shortly to, as he put it, "freezeland"—otherwise Victoria, and all join in wishing you all the best, Ken, and may some of the sun you soaked up here still be with you. As these are the last notes to appear before the festive season, the opportunity is taken to wish everyone the best for Christmas and the New Year. 73, 4WS.

BUNDABERG AMATEUR RADIO CLUB

At the Bundaberg Trades and Industries Fair held in conjunction with the Bundaberg Sugar Festival, from Oct. 8 to 13, the club displayed an amateur station in operation, together with auxiliary radio communication equipment. The station used the official call sign of the Wide Bay and Burnett Branch of the W.I.A., VK-4WQ. It consisted of a table-top tx using a Geloso v.f.o. with a 6146 final stage running about 50w. input, plate and screen modulated by a pair of EL34s. Output was coupled via a balun to an all-band antenna (off centre fed with 300 ohm line).. A relay switching unit was made up so that the station was operated from the one control switch.

The rx was an SX100 from Gil Bertram, of General Imports, a kind gesture on his part. DX on c.w. included UA0KZB and F9IH and several JAs and DUs, and on phone JA, ZL and VR2 on 14 Mc. in the early evenings. C.w. kept the crowd around and they showed more interest in this than in phone contacts. Later at night, 80 mx provided the best local type contacts.

Over 60 contacts were made during the week-end and it is planned to send all stations worked a QSL card. A blackboard was used as a log to keep the crowd informed of the nightly progress of contacts. 73, 4JM.

TOWNSVILLE AND DISTRICT

Once again the summer season is upon us and the v.h.f. boys are again turning northwards looking for the openings to Japan on 50 Mc. On the h.f. bands, must admit is galling to hear the boys in other States giving the European stations such wonderful reports when they are just audible here.

As reported in last notes, Ernie 4GE duly called after meeting most of the boys. Apparently has itchy feet after visiting the ZL boys, because he is making enquiries re the Far East. Hear that Arthur 4FE is making a quick trip to the big smoke, complains that band is so poor that he is flat out making a QSO to the end before it changes. The boys in the Lower Burdekin area were to the fore in the Scout Jamboree. Apparently the locals were browned off after the poor response from the Scouts last year, as I did not hear any from the various shacks.

As this is the festive season, I take the opportunity to wish each and every one the Compliments of the Season. As I spent last year overseas to dodge the heat, will take the time this year to visit as far south as Hobart, so you VK7 boys bake the cake as I will be there early in February and wish to meet a few of you personally and extol the beauties of the Sunshine State. 73, 4RW.

— . . . —

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held to a "standing room only" audience once again, and took the form of a "Disposals Night," which is only the VK5 way of saying a "Buy and Sell Night". Under the existing State law, if one buys or sells to a gathering, a licence is required and the auctioneer must also be licensed by the State. The inclement weather kept quite a few away, which was fortunate because room was at a premium, and for once, the gathering could breathe in and out with complete ease.

One or two important matters of business were taken care of prior to the auction, the first being the matter of an installation of an Amateur exhibit at the coming Exhibition in March next year at the Showgrounds; the other being as to whether the Division should move to more spacious club rooms or not. Very little interest was displayed at first by those present in the Amateur exhibit angle until Luke 5LL, in an endeavour to "needle" some sort of reaction, stated quite plainly that the last effort along these lines by the Division was, in his opinion, a washout from all points of view, and served no useful purpose. Results came quickly after this masterful statement, and it was decided to go ahead with the idea, with Council making a few necessary enquiries as to cost, etc., and then report back to the meeting. With respect to the seeking of new club rooms, Council was instructed to definitely move in the matter, report back to the next meeting, and if satisfactory make a move immediately. Hazarding a guess, I feel that we will see ourselves in the new club rooms in time for the Xmas Get-together. However, I could be wrong. Council, after reading this, will probably wait until the New Year, just to put me in my place!

Following the end of this momentous business session, QSL cards were distributed by George 5RX and all present settled back for the evening's entertainment. The shy, modest and debonair auctioneer, who does not permit me to mention his name in this column in difference to his blushes, was then forcibly dragged to the centre front of the stage, but before he could even open his mouth he was rudely jostled aside by the Secretary, Pat 5US, who apparently wanted to get into the act and make a few announcements to all present. Some four hours later (well, it seemed that long to me, anyhow) the buy-and-sell commenced with the usual reading of three or four stories from the philosopher's notebook by the auctioneer, which, judging by the expressions of mirth from those present, were well received, and then the disposal gear was thrown to the hungry mob.

Nothing further can be written about a disposals night which has not been written before, although I think the standard of gear now being offered is well below that of, say, a year or so ago, and this goes also for the quantity, although one can never be sure of such statements, because several good looking steel cabinets were offered to the bidders earlier in the evening and were battling to reach six shillings in the bids, but were all sold later to a hungry and battling mob for fifteen shillings each. Wouldn't it? Anyway, whatever the opinion as to standards, or quality, or quantity, one thing is certain, the buy-and-sell night still ranks as the number one meeting of them all, both from numbers present and entertainment value—s.s.b. lectures notwithstanding! I could enlarge upon this statement but my natural modesty forbids. The meeting closed at the somewhat early hour of 10.20 p.m., with three hearty cheers for the efforts of the auctioneer and his muscular-looking assistant, Norm Coltman. Well, actually, that is an exaggeration, there were no cheers, they shot the auctioneer to shut him up, but they meant well.

Heard 5WC on 7 Mc. the other Sunday with Ian Hunt at the operating end. Extra good signal, in fact the best I have ever heard them, apparently Ian's magic touch. They hope to move into the new club rooms shortly. Les (Uncle Xray to you) heard for the first time here with the call of 8UX, and judging by the voice is still in the pink. Was putting a respectable signal in on 7 Mc. on the Sunday morning heard here. How's tricks, Les? Comps 5EF hobbling around on a stick at the meeting night and looking like a veteran from the Boer War. Appeared to be a little touchy when I suggested that possibly s.s.b. might be the cause of his knee trouble, muttered something about cartridge or bullet trouble, but I did not stop to argue, he looked too pugnacious for me, anyway I am allergic to lead poisoning.

Joe 5JO is still putting out his well known brand of transmissions on 7 Mc., although judging by the whistling, the coy phrases into the "mike", and the general air of uncertainty in his voice when heard here, he was not too sure if all was well. Tell them to buy a new receiver Joe. Athol 5QL heard for the first time for a long while on 7 Mc., and with the strength and quality of the signal I cannot imagine just why I have not been hearing him. Last time I reported hearing him he was decidedly coarse about it. Even suggested I had ultra-sensitive ears as he was not on.

Clive 5PE (5WI to you), is doing a good job of the Sunday morning broadcasts, as was evidenced by the number of congratulatory callbacks heard last Sunday. He has an interesting and newsy style about the broadcast which cannot but interest all sections of his listeners. Nice work, OM. Murray 5ZQ heard on 7 Mc. with an extra good signal and judging by the number of answers to his CQ heard here, is having no trouble in getting more than his share of contacts. Luke 5LL heard on the 5WI callback recently handing out the bouquets to Clive on his handling of the session. I'll tell you one thing Clive, if this joker tells you all is well, all is certainly well, he was not behind the door when straight speaking was handed out. Anyway, wouldn't you rather have it that way?

Arch 5XK, the wild man from Norfolk Island, heard calling 5LL right in the middle of the callback frequency of 5WI the other Sunday morning. Quite a strong signal during the silence, but oh boy, where did it go to during the transmitting periods of about six or seven stations calling 5WI? Try the Bongo's, my native friend, or failing that, smoke signals. Gercha! Gilbert 5GX was doing his best to raise 5WI when heard here, but the opposition from a couple of VK2s slap bang on the frequency made it a little difficult at times. Still, like a true follower of Bruce and the spider, or was it Canute and the wicked wolf? Anyway, Gilbert kept pegging away and finally came through, decidedly bent but certainly not broken!

Tom 5AQ heard during the callback was on s.s.b. and believe it or not, I was copying every

word like a true follower of s.s.b., only to find out later that nobody else was, due to Tom's s.s.b. being on the bugle, a fact which he was well aware of, because he threatened to put the axe through the whole rig. Whilst agreeing with the axe business for s.s.b., I am somewhat put out by the fact that I was copying it so well. Could it be that my poor reception of s.s.b. is due to it being so good, or is it that my good reception of s.s.b. is because it is so bad? Oh dear, oh dear, life gets so teejuss!!

VK5 is passing through a spate of breaking and entering of shacks which are external to the QTH. Crystals and receivers seem to be the objective, because nothing else is touched. Anybody buying either of these commodities is well advised to check carefully before parting up with any well-earned shekels to an unknown seller.

Jim 5JK is at the moment of writing in the throes of batching. His wife and daughter have gone away for a well-earned rest (what am I saying?) and Jim is holding the fort. I called in the other night to see him, and after kicking aside the wall of unwashed dishes and giving him a glass of water to bring him around, I am happy to report that I think he will pull through. Brian 5OJ secured some well-earned publicity in the local week-end paper for Amateur Radio, under the heading "Scouts to be linked by radio." Over 400 Scouts set for business at the Torrens District annual rally with Brian on duty for 24 hours at St. Mary's Park. The photo in the paper was a good one and I expect Brian to be rushed for his autograph. Please Mr. Daw, Sir, could I have a lock of your hair, Sir?

Some years ago, when radio was not so specialised, nor were the demands of broadcasting so urgent, the news editor occasionally started the early morning shift not in the pink. So that he could rest his weary head, he would accept my offer to write the news pars and he only ever gave me a warning once. He said if I always remembered "that when in doubt, leave out," I would never have any regrets. All of which leads up to my foolish paragraph on the "old-new mixer," and if ever I should have left that out, that was the time. Not only did the VK3 scribe seize it with both hands and use it for his personal pat on his back ("I used it for a couple of months before I sent it on to the Editor"), wouldn't it make you sick? Crawling to the Editor, but he also wound up his paragraph with an insinuation that I was non compos mentis, which is Peruvian for knothead. If in doubt, leave out. You can say that again! All right, I will. If in doubt, leave out!

Jack 5LR has apparently made a good recovery from his bout of sickness, because my spies report that he was holidaying in Renmark for a fortnight and if all can be believed thoroughly enjoying it. At the moment of penning these notes he has not yet gone back to work, but will start any day now. Rex 5DO now no longer Treasurer of the VK5 Division, took me aside at the meeting and offered to let me into his secret of keeping his creditors quiet, even though he had just bought his new Wolseley. Apparently he thinks my creditors are restive since I bought my Holden. As if they are!

I shall be sorry if we leave our present club rooms, the reason being that the stage portion of the room is really the vestry of the church, and you may or may not remember that I was a choir boy at this church and every time I attend a meeting I find it very hard to keep out the many nostalgic memories that will persist in crowding before my eyes. People flattered me even in those days. I well remember Canon Bleby taking me aside one night after choir practice, when he accidentally came round the corner and copped a hassock fair and square, meant for someone else. "Parsons, I have never seen anybody with such an innocent face and such a sweet voice, who could get into so much mischief in one night. I shall report this to your parents." However, I never allowed myself to be influenced by such flattery, and have remained a loveable, modest, shy, and reserved person.

Bumped into Ted 5JE in Flinders Street, the other afternoon. When I first sighted him, I said to the chap that I was with, "I am going to speak to this joker, and I will bet you a drink that he will mention 7 Mc. in the first 25 words of our conversation." My mate thought this was good odds, but went a bit white about the gills when Ted said, "Good-day Pansy, I never seem to hear you on 7 Mc. I have worked this, I have worked that, it is a wonderful band." Thanks Ted, I will buy you a drink one day. Remind me on 7 Mc.!

Nobby 5WK is reported by my spies as being considerably interested in s.s.b., so much so that he has been visiting Arthur 5HY to see the lay of the land. Another stalwart about to fall. Oh dear, oh dear.

John 5SJ, apart from being connected technically with t.v., now appears about to become a t.v. star in his own right. According to the local paper he will direct and compere his own show on ten-pin bowling on Saturday mornings on Channel 9. I will wait until he is conducting a big quiz show or something, when he will be giving away a Rolls-Royce car, or perhaps a luxury liner, and then I will demand that I be a contestant. He would be sure to favour me, possibly for a booby prize. Luke 5LL told me at the meeting that he had been promised a photo of the picnic get-together at Crystal Brook, mentioned in last month's notes, and thought it would be suitable for the mag. So far it has not arrived, and with Luke gad-abouting in VK7 at the moment, it looks like it will have to make a later issue.

Since being "Custodian of the Instruments," business has been fairly slow. Gilbert 5GX was the first customer, closely followed by Joe 5JO, and then about one a week—all of whom rang up first and checked to see if the gear they wanted was available. Two called at the house during my absence and naturally could not be fixed up, but rang later and did the right thing. A member rang my doorbell at 10.30 p.m. and appeared a bit put out because I did not express exuberant joy at seeing him. However, after I had tactfully told him the facts of life as applying to the borrowing of the test gear, he seemed to see the light. So much so, as he jumped the front fence in his hurry to leave, he said, "Goodnight Mr. Pansy." My XYL tried to tell me that the paint on the front fence was blistered, but I deny it!

Tom 5TL has returned from his trip into the wilds of Interstate, injured foot and all, and reports a good trip. He left quite an impression on Nowra, having backed his car into the wall of the motel, but as he paid up cheerfully, I gather he has no regrets, nor does he bear any malice. Talking of Interstate, I notice the VK4 scribe remarked recently, with a sneer that could be heard in VK7, that he had just paid his local post office the yearly fee of £1. Whether this is intended as a bait to induce me to become a VK4, I do not know. However, I can assure him that I have no objection to walking sedately up to the Receiver of Public Moneys at the G.P.O. Adelaide, it is only the principle to which I object. Gercha, and other expressions of disdain.

Received my copy of "Info," the journal of the Elizabeth Amateur Radio Club, and note it is still maintaining its high standard of journalism. I also note with hurt feelings that my name is still unlisted in the nominees for the Elizabeth Award, plus many mysterious references to an investigation by the F.B.I., etc., etc. If this keeps up much longer I will have to seriously consider penning a "Letter" to the right quarter on the matter of slowness in posting out awards!

If this should meet the eye of Ron 3RN, and if it doesn't then I am no longer a contributor to the mag., he will be interested to know that I delivered his message to a certain gentleman (self-styled) who resides in Gawler and he has promised to do something about the printer's ink!

The new Treasurer of the VK5 Division is Doug 5EI, of Elizabeth, and he was officially on duty for the first time at the general meeting. He seems to be decidedly keen on the job and I am pretty safe in forecasting that he will be the perfect substitute for Rex 5DO, who, as you all know, was forced to give up the job because of pressure of outside business.

I had occasion to contact Clive 5WI (or 5PE, please yourself) on the telephone recently and in case anybody also tries to contact him on the phone some time, take along a tent and provisions for a week or so and camp by the phone. I started on Monday and it was not until the Thursday that I managed to get through. He was not at all perturbed about it and said it was quite normal service for the area, both incoming and outgoing. Got any spare carrier pigeons?

Well, here we are again, December, and Xmas on the way. Don't forget chaps, roll up to the Xmas Get-Together this year and don't forget to bring a basket for the supper—enough for you and enough for me. Volunteers are wanted to help carry me from the meeting, somebody with surgical experience to separate me from the coke container. Anyway, being serious for once, A Merry Xmas to all Divisions from the Council and members of the VK5 Division, and may the old chap with the red dressing gown and the white beard bring you all that you want most yourselves. Don't forget, at the height of the festivities, spare a thought for the poor old fellow in VK5, who twelve times a year signs, 73 de 5PS, PanSy to you.

ELIZABETH AMATEUR RADIO CLUB

At the mid Oct. meeting, Mr. R. Clements, of Texas Instruments, gave a most interesting lecture on the manufacture and theory of transistors. The lecture was followed by an informal discussion and almost all those present joined in. 5NO outlined the building plans.

The Nov. meeting was devoted to business. 5NQ moved that we should have two field day stations this years, one for the picnickers, and one for the contest men; this received no support, but 5NQ was asked to form a field day sub-committee.

The v.h.f. boys went over to Yorke Peninsula and brought back a 40 ft. tower each for 5ZMK and 5ZHJ. 5ZMK and XYL are eagerly awaiting the results of the c.w. exam. 5ZBR getting his share of DX on 6. Both have been working the Crystal Brook boys on 2 mx. 5NQ trying hard to catch up with 5NO's DX score. 5ZHJ has his 6 element beam ready to go on top of his new tower. 5WV has his tower almost completely up. 5FY also bought a new tower. 5ZJM doing a good job renovating mobiles for 53.1 Mc. W.I.C.E.N. net. 5EU, 5QL, 5DY, 5TM and 5PE took part in the Jamboree-on-the-Air. A letter of thanks has been received by the club from the local Scout Co-ordinator.

5DY developing a transistorised s.s.b. generator. Perhaps there are nightingales in Berkeley Square, but the chirpy c.w. from the Park is 5QL. 5AX is still struggling with his sideband rig, having trouble with his linear. 5DT is on 40 and 20 mx phone. 5PE made his shift to the new QTH in Elizabeth East with hardly a break in activity. Dec. 15 is the night for the Xmas "Do." 73, 5NO.

— . . . —

WESTERN AUSTRALIA

Talk about almond eyes and politeness! Ron 6KW, our President, has returned to Western civilisation after a visit to Singapore, Hong Kong, Japan, and other points in our Near North. However, by the time you read this, of course, a number will have heard Ron's lecture for the Nov. meeting. "My adventures in the Mysterious East' was to have been the title, but it was felt that this would only make members envious or nervous or something. In any case, Ron's XYL was with him! Both enjoyed themselves, in spite of this, and I'm envious if nobody else is.

At the time of writing, the whole of VK6 is suffering from an epidemic. The main area of infection appears to be centred around Perth, with particular spots of highly dangerous activity located at Beauty Park, where manifestations of the disease are shown by people throwing themselves in a small area of water which appears in one or two places; the Velodrome, where people, under the influence of the fever mount two-wheeled vehicles and pedal furiously around sloping walls in an effort to stop themselves from falling over; and the Perry Lakes Stadium, where attacks and spasms give rise to tremendous bursts of physical activity. Some run round in circles, others jump in the air, whilst a smaller number savagely throw things across the ground. Such items as steel balls, long slivers of wood, hammers, and discs of metal have been observed in flight.

An odd effect of this disease is that, far from people running away from those already infected, it seems to draw them towards the centre. Moreover, this attraction appears to be not only confined to those from other States, but from many parts of the world.

Experts are forecasting that the situation will get worse; the main crisis is expected to occur on Nov. 23, followed by intense spasms in all phases of the fever until Dec. 5, when it is expected that most symptoms will suddenly disappear, leaving only the doctors and nurses, tired and worn. It has been forecast, too, that the medical staff suffer what is known clinically as an "after effect," i.e. in popular language the "T.D's." They tremble first and get delirious afterwards. This includes loud bursts of maniacle laughter, assuaging an unquenchable thirst, hitting each other violently on the back, for no apparent reason, and many repetitions of "I told ya she'd be apples!" and "'Ow are ya, mate! Orright?"

Finally, all germs—er—people, are expected to recover and by Christmas time should be as near normal again as they ever will be. Anyway, see if the experts are right, the worst will be over by the time you read this. After all, VK3 had a worse attack in 1956 and they recovered—I think!

Oh well! Let's talk about normal people, like Hams. The most recent group activity was the Scout Jamboree-on-the-Air and although conditions were variable, some good contacts were made. Unfortunately, activity was not very intense. In Perth, Pat 6PH and Jim 6RU

were notables in assisting with this worthwhile cause. Associate Hans Frost, who is also a District Commissioner, did his best to organise the Jamboree, but there were not sufficient offers from Hams. To the others in the metro. area who made their rig available, a big hi! In the country areas, and on the brighter side of things, Katanning really gave the boys the insight into Amateur Radio. Altogether 45 Scouts and seven Scouters from Katanning, Kojonup, and Broomehill visited shacks in Katanning. Herb 6XO, Robby 6XR and Clarrie 6XG handled groups throughout the afternoon and night, and again on Sunday morning. I understand that conditions were variable, but some good contacts were made, not only local but overseas. Now I suspect that there were other country stations on too, doing this worthwhile job, but nobody tells me! In this case, just bear in mind that Scouts make a fertile field to grow good Hams!

Alan 6AB has been seen around Katanning again. Hear tell that Joe 6FD has been a temporary resident in the village, too, usually manages to meet the X boys after 5 p.m.—sharing hospitality and fellowship with them. For cash, of course.

I am getting suspicious. I have a feeling that they are on to me! My secret mail has not been arriving. I sent out three letters to three widely separated parts of the State, including stamped, self addressed envelopes, to three of my newest recruits to the spy ring. What did I get back? Nothing! Not even a signet. (Definition: Signet—a small signal. Similar to cygnet, only different. Has no wings but flies.) Now I wouldn't blame the P.G. (that's short for P.M.G., but disguised, because he pays my salary), so I hope I've passed the message and that my boys have got the picture, and will put their hands to the plough, before we have our backs to the wall, and don't have anything to write about at all. (Sorry, I didn't mean that to rhyme!)

By the way, a small signet, i.e. a very young signal, tells me that Neil 6ZDK is disposing of a low frequency rig. What about hanging on to it, Neil and using it yourself? Should make a good portable rig. Sounds as though Bill 6RX is going for the big time, too, because his Geloso tx is going out. What's next Bill, a Collins kilowatt or something? Continue with the good work anyway, Bill and Aileen, too.

Well, the year moves on rapidly and our next meeting will be the last for the year. Our Christmas meeting is the highlight of the year, so don't miss it. The President's trophy for the 40 mx scramble will be presented to the winner of the 1962 effort. So best bib and tucker on for this, brush off the blue suit and come along.

Talking about brushing off. There was this t.v. serviceman, see, who had a new assistant starting. First morning, carries a t.v. chassis onto the bench. Says to the boy: "I think the i.f's. are off, we'll sweep it first." New boy, puzzled, says, "Er—wouldn't a vacuum cleaner be safer?"

So, it's just as well this is my last effort for the year. Compliments of the Season to you, and you, from all the members of Council, all the other members of the VK6 Division, and myself in particular. 73, 6LS.

TASMANIA

Heartiest congratulations and best wishes to Den 7DK and Verna, his XYL, from the VK7 Division and all of us individually on the occasion of their marriage on Monday, 28th Oct. We sincerely wish you both a long, happy marriage with lots of QRM but control of harmonics. The happy pair have been heard operating 7DK mobile during their honeymoon on the north-west coast of our State.

The Jamboree-on-the-Air is over for this year and I think it is true to say that operating conditions as regards QRM were not as severe this year as last year. About 20 stations, both h.f. and v.h.f., operated at one time or another during the Jamboree and the results of their efforts were really quite impressive, considering band conditions. Several stations, including 7BS, 7RX, 7CT, 7JF and 7DK, were heard operating from camp sites under weather conditions not at all in favour of camping. 7WI was operated at full stretch by special permit to David 7ZAY and many fruitful contacts were made, despite tx trouble. Nev 7ZEE operated as the v.h.f. control station during the Jamboree, and did a very good job indeed on 2 mx. We are indebted to Nev. 7ZEE and David 7ZAY for repairing the dial cord on the 7WI rx early in Oct., and that was a job much harder in the fulfilling than would appear by just writing the fact down. Many thanks, lads, from the Division.

Talking v.h.f., Bob 7ZAL is now portable at Stanley and will be looking for 2 mx contacts throughout the Division and over the water for the next several months. Two new stations are also operating on 2 mx, namely John 7ZOO and Rex 7ZAT. Welcome to both of you.

Greetings also to Ted 7ZBB at Poatina, we have not heard you down this way yet Ted, but we hope to. Rupe 7RM has been in Adelaide for a month visiting his sister over there. It was nice to hear and chat with you again Rupe.

The c.w. section of the VK-ZL Contest took place about the middle of October and three stations were heard to take part. Den 7DK would seem to have led the field from this Division. Several of us have been pleased indeed to work Arch 5XK while portable during his annual holidays on Lord Howe Island, providing us with another country. Arch was also heard to have a dog pile all to himself on 7 Mc. consisting of W stations. Luke 5LL spent three weeks touring around VK7 during November and many of us met him too. Terry 7CT is to lose a daughter and gain a son-in-law about the middle of December, consequently his pocket is being hit hard at present and his radio time is severely curtailed. Alan 7MY has by now moved into his new house at Cremorne and he is talking of going on s.s.b.

At our Nov. Divisional meeting we were lectured most impressively by Joe 7BJ on the subject of crystal filters. It is not for nothing that Joe is called the "old master". Well, the Old Master gave a masterly address even for the Old Master on this very difficult, definitely touchy subject. His words were delivered both from theory, experience, knowledge and practice, all of which are ideal ingredients for a wonderful address. Thanks, Joe.

Finally, from myself, the President, Councillors and rank and file members, I wish you all a very happy Christmas and a prosperous New Year, and may we experience lots of radio activity from you in the year to come. 73, 7ZZ.

NORTH-WEST ZONE

Well chaps, the festive season is almost upon us once more, complete with disrupting influences to Ham Radio! The next meeting on Tuesday will be the last for 1962, so roll up everyone, especially you Ulverstoneites. Kevin 7ZAH was your only representative at the last meeting. The last meeting was strictly a social event. Unfortunately I could not be present, but from all indications a good time was had by all. Sid 7SF had some excellent movies and Max 7MX a collection of superlative slides to show. George 7XL also had some wise words to say about mobile antennae.

It is most gratifying to see the Southern boys rise to the occasion concerning the Sunday broadcast. On 3.5 Mc. no trouble should be encountered in copying. Speaking recently to the Boy Scout District Commissioner, he mentioned in passing that he was impressed by the Amateur fraternity as a whole, and hopes the Jamboree-on-the-Air will become an annual event.

The bands have been quiet lately, but by reports 7SW is doing big things on 20 mx c.w. Should be more of it! Maybe when 7MS gets his new quad up and 7SF stokes the new tx, things will hum! Max 7MX and XYL on extensive tour of VK2 and VK3 at present time. Keep locks on your shacks, you boys! 73, 7ZBH.

NORTHERN ZONE

Of licensed Amateurs in this zone, or more correctly still, in the near vicinity of Launceston, 45 per cent. have not been active for some years and unfortunately do not seem likely to ever become active again. If stations who appear on the air only once or twice a year were added this figure would rise to well over 50 per cent. Considering therefore that we are now getting an average attendance of 17 per meeting, it can easily be seen that this figure is made up of quite a few associates. Fortunately at least four of these definitely intend taking the A.O.C.P. exam. in February so in the interest of the zone it is essential that all licensed members help these associates to the limit of their ability. This will ensure a strong and active zone for the future.

Ted Byrnes has now received the call sign 7ZBB and is operating on 144 Mc. from Poatina with good equipment. 7BQ can be heard regularly on 144 Mc. and is at present working on a 288 Mc. rig. 7BR at Evandale, not active but still threatening to get on 144 Mc. 7CA is occasionally on 7 Mc. Sunday mornings, appears as though Max has been doing too much night work. 7DK temporarily off the air for a few weeks, there is a possibility that Den may be changing his QTH—all the best of luck, Den. 7EC active on 7 and 14 Mc., chasing DX with some success. 7LZ has been overhauling all v.h.f. gear and is now ready for the coming season. Has 50, 144 and 288 Mc. rigs operating. 7PF building a v.f.o. for 144 Mc.

The December meeting of the zone will be held over Geoff Lutwyche's radio shop, George Street, Launceston, on Friday, 14th Dec. All are welcome.

HAMADS

Minimum 5/-, for thirty words. Extra words, 2d. each.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 36, East Melbourne, C.2, Vic., by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

FOR SALE: Type 3 Mark II., good order, includes series screen modulator, £25. J. Lloyd, Phone 88-3614 (Vic.).

SELL: AR7 £35, AR8 £15. 611 Walkie Talkie £4. 550v. 250 mA. power supply £7/10/0. 522 set £5. Class C Wavemeter £7/10/0. 150w. a.m./c.w. Table-Top Tx, 80-10, commercial finish, £30. All equipment in A1 order, complete with spares, etc. VK4SS, 35 Whynot St., West End, Brisbane.

SELL: BC433 Compass Receiver, new in original carton, with tuning box and flexible drive, £12/10/0. Wanted 455 Kc. 2 Kc. bandwidth Mechanical Filter. B. L. McCubbin, VK3SO, BW 1587 (Melbourne).

SELL: Collins KWM1 s.s.b. Transceiver, perfect condition, £400. Traeger Flying Doctor Service Mobile, easily converted to Ham Bands, £25. VK3SK, Bob Slutzkin, 8 Lynedoch Ave., S.16, Vic. Phone LB 1861.

SELL: Drake 2A, as new, used sporadically over last 12 months. Will sell to best bid over £125. Roth Jones, 131 Queen Street, Melbourne.

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HAMADS

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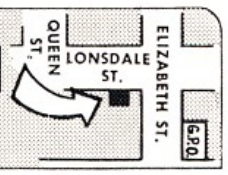

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